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Hygiene Among the Ancients.

ALL the great teachers of antiquity, they especially who legislated for their fellow-men, were well imbued with the principles of hygiene, the practice of which was made a religious duty. With the hygienic institutions of Moses, in Deuteronomy, and Leviticus especially, we are all familiar. Those taught in the books of Solomon, though with less solemnity of inculcation than the Mosaic, indicate a nice appreciation of the influence of hygienic agents, as in the contrasted pictures of the pleasures of plain and simple living, and of the penalties incurred by luxurious and debasing indulgences! What admirable lessons of temperance and chastity are contained in the twenty-third and thirty-first chapters of Proverbs! Can there be finer and more impressive images of the sorrow and ruin, and yet apathy of the sufferer from indulgence in wine, than in the last seven verses of the twenty-third chapter, beginning, "Who hath woe? who hath sorrow?" etc. More could not be said in favor of regular exercise procuring sound sleep, and of indolence being punished with wakefulness, than in this single verse: "The sleep of a laboring man is sweet, whether he eat little or much; but the abundance of the rich will not suffer him to sleep." Eccl. 5:12. These few words are equal to a long homily for inculcating contentedness with one's lot, be it ever so humble. The influence of the passions on the health is well pictured in the following verses: "A merry heart doeth good like a medicine; but a broken spirit drieth the bones." Prov. 17:22. "A sound heart is the life of the flesh; but envy, the rottenness of the bones." Chap. 14:30. "As cold waters to a thirsty soul, so is good news from a far country." Chap. 25:25. "A merry heart maketh a cheerful countenance; but by sorrow of the heart the spirit is broken." Chap. 15:13. "All the days of the afflicted are evil; but he that is of a merry heart hath a continual feast." Verse 15.

The purifying influence of Christianity, in a hygienic point of view, merits, not only the careful study of the physician, but more emphatic and frequent mention than it customarily receives in pulpit teachings and written sermons. How well does St. Paul describe man's double nature, the animal and the spiritual; and the struggle between the flesh and the spirit. He teaches, in a few words, how direct retribution in their bodily suffering is measured out to those who yield to sinful indulgences, when he describes the wrongdoer as one who "sinneth against his own body." Much more instructive than any doctrine of abstract spiritualism, is that physiological and noble view which the apostle takes of the human body, when he calls it the "temple" of the Holy Spirit which is in us, and which, as of God and not our own, we are left clearly to infer that we have no right to abuse. (1 Cor. 6:18, 19.) And, again, by another figure, he speaks of the body as a vessel to be possessed in sanctification and honor.

Tertullian, in denouncing the vices of paganism, and the vanities of personal decoration, the abuse of perfumes, etc., and visiting the theater, showed that not only the morals but the health suffered by these practices; and in his advocacy of monogamy, he argued that this state was the natural one, and most in conformity with the laws of physiology.

Still more celebrated for his extensive knowledge of medicine, was the platonic Clement of Alexandria. He used to cite frequently Hippocrates and Galen, in terms of great admiration, in the second part of his "Pedagogue," which is purely hygienic. To the names already mentioned, we might add those of Origen, St. Ambrose, St. Cyprian, St. Basil, St. Gregory, and other fathers of the church, who came soon after the apostles, and who were noted for their extensive acquaintance with the human body in its physiological and hygienic relations. The "Pedagogue" of Clement is a vast repertory of hygiene, and in it are revealed, probably more

than in any other work, the luxurious indulgences and atrocious vices of the higher classes of the heathen in the period in which he lived. The introduction of Christianity, even with all the perversions and abuses to which it was subjected by intemperate zeal, ignorance, and unworthy concessions to pagan superstitions, was the millennium itself, compared to the idolatry and vices which it superseded.

The best features in Islamism are the hygienic precepts inculcated by Mohammed in the Koran, and chiefly those relating to abstinence from intoxicating drinks and gross meats, and enjoining the regular use of personal ablutions.

The causes and workings of fanaticism and superstition, spurious religious excitements, and the sudden lapses of the faithful, cannot be properly understood, nor the means of prevention and removal attained, without a knowledge and appreciation of physiology and hygiene. An example of the high utility of such knowledge is just now before me, in Mr. Newnham's "Essay on Superstition," in which the author points out some of the numerous evidences of disordered circulation in the brain, or its sympathetic irritation from other organs, giving rise to a great many extremes, inconsistencies, and extravagancies of creed and conduct, which, if attributed to any other cause, would lead to injustice and unkindness on the part of the companions and spiritual directors of the afflicted in these ways. How often are the impressions made by an evening sermon modified, not only by the different temperaments and states of bodily health of the individuals comprising the congregation, but also by the state of the air of the church, which, by oppressing the lungs and preventing free respiration, also oppresses the brain, and renders the perceptions sluggish and the emotions vague and irregular.

The members of the two professions which have, respectively, the charge of watching over the bodies and souls of their fellow-creatures, should meet on common ground for mutual instruction and pleasure, and for the greater good of all.—*John Bell.*

Violent Exercise.—Violent or rapid exertion made by children, and also by stout or aged people, often injures, and sometimes causes disease of the heart, when the same taken in the ordinary way would do no harm. Rapidly running up-stairs, or to meet a train, sometimes causes death. Hence, whilst exercise is of the utmost importance to health, it should be taken in a regulated and rational manner, and particularly by

those who have passed the period of youth. But disease of the heart, even in youth, may often be traced to indiscretion in this particular, whether in rowing, running, or jumping.—*Ex.*

Vegetable Diet.

THE subject of vegetarianism is being so generally discussed at the present time that all of our readers will be interested in the following facts presented by Dr. Graham in his "Lectures":—

"It may be laid down as a general law in relation to the human constitution, that that food which is adapted to the anatomical structure and physiological powers and wants of our bodies, and which, from its own nature, is longest in passing healthfully through the processes of assimilation and nutrition, and which, while it affords a proper quantity of nourishment, causes the smallest degree of exhaustion of the vital properties of the tissues and waste of organized substance, will sustain a man longest in labor, or in continued voluntary action. And we have seen, that in all these respects, a well-chosen diet of pure vegetable food and pure water, is better than animal food, and better than a mixed diet.

"We have seen that, according to all ancient history and tradition, the primitive generations of our race subsisted entirely on vegetable food, and generally in its simplest, plainest, and most natural state, and that they possessed far more bodily strength and ability to endure protracted labor than any of their more modern descendants. The accounts which have come down to us in the writings of the most ancient historians, poets, and philosophers, concerning the bodily strength and achievements of the early inhabitants of the earth, are rendered incredible to us by a comparison with what we know to be true of the present generations of mankind.

"To say nothing of the mighty warriors of still earlier times, the Jews, who in their conquest of the Promised Land subsisted wholly on vegetable food of the simplest kind, performed such wonders that the astonished nations whom they conquered believed them to be endowed with supernatural power. Cyrus, who raised Persia from an obscure, rude colony, to one of the most powerful and most splendid empires that the world ever saw,—who performed more extraordinary marches, fought more battles, won more extraordinary victories, and exhibited more personal prowess and bodily power of effort

and endurance, than almost any other general that ever lived,—subsisted from childhood on the simplest and plainest diet of vegetable food and water; and his Persian soldiers who went with him through all his career of conquest, and shared with him all his hardships, toils, and dangers, and on whom he always placed his main dependence in battle, and with whom he was able to march thousands of miles in an incredibly short time, and conquer armies of double the number of his own, were, like himself, trained from childhood on bread, cresses, and water, and strictly adhered to the same simplicity of vegetable diet throughout the whole of their heroic course, without relaxing from the stern severity of their abstemiousness, even in the hour of victory, when the luxuries of captured cities lay in profusion around them. In the most heroic days of the Grecian army, their food was the plain and simple produce of the soil. The immortal Spartans of Thermopylae were from infancy nourished by the plainest and coarsest vegetable aliment, and the Roman army in the period of their greatest valor and most gigantic achievements subsisted on plain and coarse vegetable food. The same is true of all those ancient armies whose success depended more on bodily strength and personal prowess, in wielding war-clubs, and in grappling man with man in the fierce exercise of muscular power, and dashing each other furiously to the earth, mangled and crushed and killed, than in any of the nicer tactics and refinements in the art of war.

“It is said that after the Romans became a flesh-eating people, the Roman army was equally heroic and victorious; but it should be remembered that whatever were the practices of the wealthy and luxurious Roman citizen, flesh-meat entered but very sparingly into the diet of the Roman soldier till after the days of Roman valor had begun to pass away; and with equal pace, as the army became less simple and less temperate in their diet, they became less brave and less successful in arms. And it should be remembered also, that after the Romans had become a flesh-eating people, the success of their army did not, as at first, depend on the bodily strength and personal prowess of individual soldiers, but on the aggregate power of well-disciplined legions, and on their skill in systematic war. So far as bodily strength and ability to endure continued voluntary action are considered, the Roman soldier was far the most powerful and heroic in Rome's earliest days, when he subsisted on his simple vegetable food.

“The same important principles are demonstrated by the facts of modern times.

‘Very few nations in the world,’ says a sagacious historian, ‘produce better soldiers than the Russians. They will endure the greatest fatigues and sufferings with patience and calmness;’ and it is well known that the Russian soldiers are from childhood nourished by simple and coarse vegetable food. It is well known, also, that among the bravest and most hardy and enduring soldiers that composed the army of Napoleon Bonaparte in his wonderful career of carnage and conquest, were those who had all their lives subsisted on a coarse vegetable diet. ‘The Polish and Hungarian peasants from the Carpathian Mountains,’ says a young Polish nobleman, ‘are among the most active and powerful men in the world; they live almost entirely on oatmeal bread and potatoes. The Polish soldiers under Bonaparte,’ continues he, ‘would march forty miles in a day, and fight a pitched battle, and the next morning be fresh and vigorous for further duties.’

“In 1823, General Valdez (a Peruvian general) marched to Lima with an army of native Indians, expecting to find General Santa Cruz with the patriot army there; but learning that the enemy were advancing at a considerable distance, General Valdez resolved on meeting them as soon as possible by forced marches. Usually a large number of women, the wives of the soldiers, and sometimes their children, accompany the army; and when the army moves from one place to another, notice is given each morning where they will quarter at night; and then the women immediately start away (with their children and baggage, if any), and when the army arrives at its quarters for the night, the women are always found upon the spot, and the supper prepared for the soldiers. But on this occasion, General Valdez, wishing to take the enemy by surprise, selected between two and three thousand men, ordered them to leave their women and all unnecessary baggage behind, and every man to fill his pockets with parched corn for his food. Thus prepared, he appointed, each morning, the place of meeting and stopping for the night, and then left every man to take his own way as he pleased. In this manner, General Valdez led his army from near Lima to the southward of Arequipa, a distance of two hundred and fifty leagues, or seven hundred and fifty miles, in eleven days, or more than sixty-eight miles a day, for eleven days in succession; and at the close of this forced march, met and routed the patriot army of between three and four thousand men. ‘These Peruvians,’ says a highly intelligent gentleman who has spent twenty years among them, ‘are a more hardy race, and will en-

dures more fatigue and privation, than any other people in the world. They subsist wholly on vegetable food, and being very improvident, their diet is generally coarse and scanty. Parched corn is their principal, and generally their exclusive, article of food when engaged in any particular enterprise or effort which requires great activity and power of body; at other times they subsist on such of the various products of their climate as they happen to have at hand. In traveling, and in many other respects, the women are quite equal to the men in muscular power and agility."

Curious Baths.

THE ancients were partial to *hydroleic* baths, or those consisting of oil and water; also to baths of *oil* alone, and sometimes of *milk*, and of *wine*. History relates that even baths of *blood* have been used. At the present time, on the continent of Europe, baths are sometimes made of the husks of grapes and other residual matters, after the expression of the juice; and also, those from the similar residue of the olive, after expression of its oil.

Gelatinous baths consist of dried gelatine dissolved in water.

Illutation, mud or earth bath, consists in covering the body up to the neck, or a single limb, as the case may be, with mud or earth. This is seldom practiced except at thermal springs, the alluvial soil near which, mixed with the warm water that has just left the spring, and with sulphurous and saline deposit, is of a warm temperature. It may be regarded as a thermo-mineral bath, and as such finds favor in Germany, where it is called *schlamm-bad*; in France, where it is termed *boue*; and in Italy, *lutatura*—not accorded to it in England or the United States. The ancient Romans made use not only of this kind of illutation, as we learn from Pliny, but also of another described by Galen, and which consisted in coating, or we might say luting, the trunk and limbs with a fat or greasy earth procured from Egypt. It was the deposit left after the overflow of the Nile. When thus applied, it was reported to possess desiccating and detergent properties, and was used in cases of oedematous swellings and tumors resulting from chronic inflammation; also swelled joints, and the like. The deposit at the warm springs near Padua was famous, in Galen's time, for softening indurations, and for warming, desiccating, discussing, and resolving obstinate tumefactions, and removing pains in any part. It still retains, I believe, its reputation in this way.

Illutation, according to Baccius, is practiced in two ways; after several days' use of the water bath, or for ten or fifteen days in connection with it. He advises those who would strengthen any part weakened by chronic diseases, or who would discuss tumors, or extend contracted members, first to prepare themselves, then to bathe for some days, and then to besmear the part affected with the mud yet warm and near the source of the spring. He orders them to go into the bath early, and to use the mud when the sun begins to grow powerful; and as it dries to change it, defending the head and the rest of the body, meantime, from the scorching heat. Or, to put a new coat of mud over the old, till, after two or three hours, it falls off of itself, or is scraped off; then bathe, rub dry, anoint, and breakfast. After four hours, when the first digestion is completed and the limbs have had rest, he orders the same process. In the evening, he directs bathing or sprinkling, so as that the same water and operation may wash off the luting and strengthen the parts, which are to be then anointed; after which the patient takes his supper or evening meal. For anasarca, Aëtius orders illutaments mixed with discutients, and then bathing. Montagnana, for obstinate contractions, or contractions, advises illutaments, and afterward unguents. For swellings of the spleen, and other inflations from thick cold impacted phlegm, he orders illutation of ashes or of salt earth. For burns or scalds, such illutations are commended.

Among artificial illutaments we may reckon the *cæromata*, a composition of powder, oil, and sweat, scraped off the bodies of the *athletæ*, and saved for use, according to Pliny. Wrestlers anointed their bodies, that they might the more easily evade the grapplings of their antagonists. They again threw dry powder on each other's bodies, that they might the more easily lay hold.

These scrapings were, according to Pliny, sold at a monstrous price. Dioscorides says that they had an emollient and discutient effect, and were used for piles, which were beneficially anointed, we learn, with unguents made of this odd residue. The scrapings which were gathered in the *palestræ* were, he tells us, used in hipgouts by way of a poultice.

Solano, in Spain, deriving his notions from the Arabian physicians, Fouquet, in France, and others, have employed earth baths in pulmonary consumption, and Marsigli in syphilis—with similar results; for although success was claimed, a better pathology teaches us now how little can be hoped for from such means, especially to arrest tuberculous growth, and the associated constitutional disturbance

which constitute consumption. Artificial illutaments were also employed, as we learn from Ætius.

Akin to illutation is the bath of warm dung, resorted to in the country parts of continental Europe, for the cure of rheumatism and analogous affections. Somewhat less rustic, and allowing of rather more poetical associations, is the bath of bees-eggs, in paralysis. It consists of a mixture of wax, honey, and foetal products of the bee, and forms an emollient for the skin, much of the good effects of which must depend on a large measure of faith possessed by the patient.

Saburration, or arenation, or sand bath, is taken by covering the body, except the head, with sand and the exuvial matter thrown on the beach by the sea and heated by the sun. Sometimes the process is gone through in tufa or volcanic earth mixed with sand and sulphur, as found near certain hot springs. Inunction was occasionally practiced before saburration,—the subjects of which, at times, stood, or walked, or even ran about during the time. Saburration was either general or partial; and was prescribed for atrabilis, elephantiasis, and the nodosities left by gout, and even in paroxysms of this disease. The Tartars of the Crimea are partial to this kind of bath during the great heats of summer. They think it serviceable in hypochondriasis, scrofula, scurvy, etc. A cavity is made by scooping out the sand, and the patient is placed in it and covered over as if he were in a bathing tub. A mild heat is produced, followed by sweat and an eruption. With similar intent and effect, recourse has been had to salt and to grain. Baccius recommends rubbing with salt and water in the sun or before the fire, taking care to cover the head. The beneficial operation consisted, for the most part, in free diaphoresis. Pliny relates, that Sextus Pompeius, being in command in Spain, was seized, while superintending the winnowing of his grain, with a fit of the gout in his feet. But by speedily burying his legs up to his knees in the wheat, the pain was carried away from the affected part in an astonishing manner.

Insolation.—Of a kindred character with the remedy just described, is the being enveloped in leather, or in the hide of an animal, and then exposed to the sun—insolation; although neither of them can properly be included under the head of bathing, except in so far as they resemble the warm bath by their inducing diaphoresis and moderate revulsion. A large hide is to be procured, which is to be oiled, stretched out on fine sand, and warmed through by a hot sun. The patient is next to lie down on this, and throw

a light covering of linen over his head, and, if he perspires, the face is to be carefully wiped with a sponge. Having lain some time, until the body is greatly heated, he turns on the other side, and so round and round; first on one side and then on the other.—*Bell on Baths.*

Dangers of Meat-Eating.

THE dangers of contamination with disease from the use of animal food are not a few. Trichinæ, tapeworms, and other entozoic parasites enter the system in animal food. In addition to this source of danger, animals are well known to be subject to numerous diseases which may be undiscovered before the animal's death, or, if discovered, may be secreted for the purpose of gain by unscrupulous butchers. Another great danger, and one which is commonly overlooked, is the effect of fatigue or suffering upon the blood and flesh of animals. There is ample evidence that the blood and flesh of an animal killed in a state of fatigue or excitement may be violently poisonous, as is well shown by the following cases, which we quote from "Kirby's Wonderful Museum," published in 1820:

"It appears, from incontestable evidence, that from killing cattle that have been much fatigued or harassed in driving, while yet warm, consequences highly dangerous, and even fatal, may result to those engaged in the operation. Whether any noxious vapor exhales at such a time from the carcass, has not been accurately ascertained; but so much is certain, that the contact of the blood is productive of the most alarming effects. The following fact was communicated by M. Morand, physician to the *Hotel des Invalides* at Paris, to the French Academy:—

"On the 7th of October, 1765, two butchers, belonging to the *Hotel des Invalides*, each killed an ox for the use of the house. . . .

"The following day, however, one of the butchers complained that his eyelids were swelled, and of headache. The swelling extended to his cheeks; fever succeeded, and he was carried to the infirmary. . . .

"On his eyelids and different parts of his face rose tumors which threatened mortification; but at length an eschar was formed, which with difficulty was brought to suppuration. . . . On the 20th the left thigh was attacked with a violent pain, as was the right leg on the following day. . . . The pain and swelling increased, suppuration en-

sued, and he was confined to the infirmary for upwards of three months.

"The other butcher was attacked by the same disorder two days after killing the animal. He suffered more than his colleague.

"These two oxen had been examined, according to the constant custom of the house, and were not observed to have any malady or distemper. They only appeared to be rather fatigued. Their blood seemed in no respect different from that of others.

"A butcher who had been in the army stated similar facts, and that some of the men affected had died.

"Another communication was made to the Academy, in substance, as follows: A drove of cattle proceeding from Limosin to Paris, one of the finest was unable to keep up with the rest, and he was sold to a butcher of Pithivier. The man, on killing the beast, put the knife into his mouth, and was some hours afterward attacked with a swelling of the tongue, an oppression of the breast, and a difficulty of respiration. Blackish pustules appeared all over his body, and he died on the fourth day of a general mortification. The innkeeper having scratched the palm of his hand with a bone of the same animal, a livid tumor arose in the place, the arm mortified, and he died in the course of a week. A maid servant received some of the blood on her cheek; violent inflammation followed, with black tumors, which, though cured, greatly disfigured her. The surgeon who opened one of these tumors put his lancet between his wig and his forehead; his head swelled, an erysipelas or St. Anthony's fire succeeded, and it was a considerable time before he recovered."

Three Good Houses.

A WRITER in the *Christian Union* relates the following instructive experience with "good houses":—

"Several years ago, the writer of this article had occasion to find a new domicile in one of the favorite suburban resorts of New York City people, and finally settled upon a large cottage in a very healthy town. This cottage was better ventilated than even wooden houses are likely to be, but as pure air always seemed cheap to the writer, even though an extra large coal bill was incurred, the cottage seemed particularly desirable by reason of the fault alluded to. When winter arrived, however, not even loosely framed doors and rattling windows admitted enough pure air to keep the occupants awake and

bright through the short evenings of a family which always retired early. The writer occasionally imagined that he detected an unpleasant odor at the register, and some friends, to whom he mentioned his supposition, suggested dead mice in the pipes which conveyed heat from the furnace to the registers; others suggested that a cast-iron furnace was at the bottom of the trouble; still others (who were promptly withered by a glance from the writer's better half) suggested a dirty cellar. The writer finally found that the cellar was occasionally damp—and he noticed that its floor sloped very gradually toward the center. Putting both facts together, he was not surprised to find a drain, *directly under the furnace*, to carry off water; this drain led to the cesspool, and when the furnace was in operation the foul gases of the pool were sucked up by the furnace and conveyed through the house. The house stood on a good street, was built for occupants with purses of reasonable length, and passed as one of the best houses that could be hired in the village.

"Moving from this house to another which had long seemed attractive, the writer soon found that unless his cellar windows were always open, and a good draught passing through them, a bad smell would find its way into and through the house. An examination of the cellar showed that this receptacle was generally very damp, though why it should be was not apparent, for a drain started from one corner and ran to a brook not far away, and at a respectable descent. It was finally discovered, however, that the water in the well (which was near and in front of the house) was often above the line of the bottom of the cellar, and that though the house stood at the foot of a valley, it had no exterior or bottom protection in the shape of drains. It was simply impossible to keep the carpets, bedding, walls, etc., of this house from feeling damp, even when a steady fire burned in the furnace; and the loss of a child was attributed by physicians to malarious exhalations from the cellar. The trustees of this house were practical plumbers and members of a public health association.

"A handsome, high-priced house was then purchased from a rich and reputable citizen, under whose personal supervision it had been built. The ground on which it stood was rather low, but a well-cemented foundation-wall and cellar seemed to defy dampness, while a system of traps seemed to shut off unwholesome exhalations from waste water. After the first heavy fall of rain, however, the water from the well was unpleasant to both the palate and nostrils; the fault being

attributed to the surface drainage, the curbing of the well was raised a little. Finally, at the end of a very dry month, the taste and odor disappeared, and the last drop of water in the well disappeared soon after. Laughing at this feeble attempt of the Fates to torment them, the occupants drew upon their well-filled cistern; here they encountered odors and tastes more repulsive than they had found in the well. 'Fresh cement always makes water taste bad,' said a practical neighbor, so the cistern was promptly pumped dry and washed out, and the neighbor aforesaid was rewarded for his suggestion by having his own well and cistern laid under contribution until the next rain-fall. But somehow the faculty of that cement for spoiling water was remarkable, and we rejoiced when winter storms gave us a full well once more.

"For six months the cistern was undisturbed, except on washing days, although the well occasionally yielded offensive water; at last, however, the well failed in the dry month of July, 1876. Once more the cistern was approached; the first strokes of the pump brought water that was as brown as coffee and as offensive as stable drainage. Radical reform measures were immediately resolved upon, and a plumber engaged to apply them, with the following results: We learned that a cesspool which received all the kitchen drainage, including the water in which dirty clothing had been washed, was within two feet of the cistern and eight feet of the well; the overflow pipe of the cistern communicated with this pool, the dimensions of which pool were about two by five feet; the kitchen drainage of an ordinary washing day could not with sufficient rapidity soak into the ground out of so small an inclosure, so it flowed into the cistern, while much that went into the ground found its way to the well.

"The gentleman under whose supervision this last-mentioned house was built was frequently asked about the location of the cesspool (for the well was dug after the house was purchased) and always indicated the whereabouts of a larger and quite remote pool, allowing the owner to sink a well in the immediate proximity to the smaller pool; the mason who had dug and laid the pool and cistern came once to clean and repair the latter, but never suggested the cause of the trouble.

"The damage done to the physiques of the several members of the family (some of whom are peculiarly delicate children) cannot easily be calculated, if, indeed, its full measure has yet appeared. The law—State, national, and moral—forbids that the builders

of any one of the three houses mentioned shall be slain by the persons injured, and it affords them many a chance of escape in case of suits for damages. But if the experiences recorded have befallen the lessee—a man with whom good ventilation, perfect drainage, and pure water are hobbies—in three short years and in houses apparently excellent, what must be constantly happening to people who are careless on these points, and who consider a house attractive in proportion to the smallness of its rent? How many householders are there, who, untiring in their efforts for the good and comfort of their families, are being steadily and successfully fought by deadly enemies under-ground? How many thousands of the 'sad and mysterious dispensations of Providence' may be traced to ignorant or unscrupulous builders and their employees?

"This much the writer has learned by sad experience—to resolutely trace unpleasant house odors to their source, to discover some cause for the evening lassitude which is common in many families, and to hurry to the physician, for analysis, a sample of any drinking water which seems in any way objectionable."

Overtaxing Children.

CHILDREN are overworked—far beyond their powers of endurance. It is discoverable in their imperfect physical development. With us, their brains are overtaxed. Schools of every grade, from primary infantile to normal institutions, require too much. Under the impression that they are having rare facilities for acquiring knowledge, the poor things break down under a pressure of too much instruction.

Force of circumstances compels parents to place their children too soon in factories, where they are wronged out of their share of vital air, to which all are entitled. Philanthropists have appealed to the legislature, but in vain. There is law enough for their protection, without a corresponding earnestness to execute it. Though all are born free, and have equal rights in the pursuit of health, wealth, and happiness, only few of the many secure any of these. Poverty cannot compete successfully with wealth.

There is another field for culture where the harvest might be large, but the laborers are few. In private families where children are loved and watched over with paternal solicitude, there is a culpable ignorance in obliging their little ones to do too much, under the mistaken idea of giving them superior advantages.

Precocious children disappoint the ardent expectations of their friends. When they arrive at an age at which they are fondly supposed to be ready to blaze with extraordinary mental brilliancy, their feeble light goes out. Slow and sure is a true saying. Gradually evolving an intellect, as a flower unfolds its beauty, is a safer process than bursting open suddenly, to wither under the first rays of a morning sun.

Children ought not to be taught much of anything more than moral duties, till they have reached at least six years. Their brains are in no condition for concentrating thoughts before. They should have perfect liberty to act out their exuberant playfulness with as little restraint as possible, consistent with proper discipline in the lessons of good manners, courtesy, truth, and order. Time is not lost in giving them such scope for exercising body and mind. Their activity and ever-varying amusements are but so many ways of tutoring their muscles, their organs of sense, and in preparing them for the places and responsibilities of the future.

Public schools are overworking pupils; goaded by fear of disgrace or punishment, overexcited by promised rewards, their immature nervous systems are forced at the expense of their vitality. When pale, delicate, frail little girls are flattered into a morbid ambition in a Sunday-school, to commit to memory long, dry chapters, to them without meaning, it is reprehensible. It is a violation of physical law that has broken down and spoiled many a bright and promising child.

Allow children all the play-time they wish. They will stop at a seasonable period for disciplining their innate powers, voluntarily, to commence a higher series of employments which will be also enjoyments.

It is a lamentable mistake to keep young misses several successive hours at the piano. Dragooning them into accomplishments is a poor policy. Besides deranging the minute structure of the brain by long-continued practice at a single sitting, if attended with fatigue, the continued attitude presses painfully on certain bones. Curvatures of the spine, and a droop of a shoulder, are traceable to such circumstances.

Recollect the bones of young girls are not completely ossified till near their twentieth year. They are not hard and firm. A fixed attitude, therefore, so as that the weight of the body presses directly on the pelvic framework, may warp them out of the line in which they should have development. Nature has inspired all young animals with a restless spirit, on purpose to keep them mov-

ing. A love of change is simply giving each and every fiber and organ a chance to perfect its organization.

While children sleep, which is about all the rest their active limbs require, processes are then rapidly going on for the physical completion of their bodies. That is the reason why they require so much repose. Internal artisans then labor with intense energy while they are quiescent in slumber.

Growth is suspended when they are awake, but renewed the instant their eyelids are closed.

Unfledged birds in the nest sleep nearly all the time, after leaving the shell, till their feathers are sufficiently developed to sustain them on the wing. Their perfect quietude favors vital processes, so that in a very few weeks they are complete in all their proportions.

When the brain is large, the process of growth is slower. Allow young girls and boys as much sleep as they desire. It is not from indolence, or a sluggish nature, that they are so uniformly disposed to drowse to a late hour in the morning. If they retired earlier, they would rise earlier. But Nature demands both time and opportunity for completing their bodies according to a prescribed pattern. If we interfere with that law, and interrupt processes instituted for that purpose, they will have unfinished bodies, weak brains, and poor health.—*Smith.*

Health of the Jews.

A WRITER in the *Sanitary Record*, after remarking upon the peculiar and wholesome restrictions of the Mosaic law respecting diet, cites the following facts as confirmatory evidence of the benefits which they derive from their attention to hygiene:—

“The Jews present a remarkable immunity from intermittent fevers, from cholera, and other filth diseases; from convulsions and tabes mesenterica of children, and from phlegmasia of the respiratory organs.

“Tschudi, in speaking of the plague of 1346; says that this malady did not affect the Jews of any country. Fracastor mentions the fact that the Jews escaped completely the epidemic of typhus, in 1505. Rau mentions the same immunity from typhus at Limacque in 1824. Ramazzini insisted on the immunity of the Jews from the intermittent fevers observed at Rome, 1691. Dagner says the Jews escaped in 1736, the epidemic of dysentery of Nimègue. M. Eisenmann in-

sists on the extreme rarity of croup in Jewish children.

"According to Dr. Stallard's work on 'London Pauperism,' Jewish children have no hereditary syphilis and scarcely any scrofula. Their greater tenacity of life is therefore not only due to better maternal care and nursing, but to the inheritance of a better physical constitution than the Christian child.

"Levy says that the mean average duration of life among the Jews, exceeds that among the Christians by about five years.

"Dr. Stallard, in his work on 'London Pauperism,' says that the mortality among Jewish children from one to five years is only 10 per cent., while among the Christians it is 17 per cent. The average duration of the life of the Christian in London is 37 years—of the Jew 49 years. The mean duration of life in the general population in London in the 37 years 1840-76 was 41 years.

"In Germany the excess in favor of the Jews as regards the mean average appears to be eleven years.

"In France the mean mortality amongst Christians is 36 years 11 months, amongst Jews 48 years 9 months. In the first 8 years of life, of 100 children of Jews, 12.9 die; of 100 children of Christians, 24.1 die. Among 100 Christians, 38.1 attain to 50 years, and 54 among the Jews; 13.4 Christians attain to 70 years, while 27.4 Jews attain the same age. One quarter of Christians attain only 6 years 11 months, and one quarter of all Jews 28 years 3 months. The Jews in England and Wales appear to be increasing in recent years. The proportion of Jewish to total marriages in the five years 1841-1845 was only 1.2 per 1,000, whereas in the five years 1871-5 it had increased to 2.3 per 1,000.

It is also found from statistical information that suicide is much less common among the Jews than among other religionists. Crimes are of much less frequent occurrence amongst the Jews than amongst other nations, and illegitimate children are much less frequent amongst them; chastity among Jewesses being more prevalent than with other nations. Judged by the proportion of illegitimate children they are three times as chaste as the women of the races amongst whom they live."

The Moral Value of Physical Strength.

—The American scholar and thinker is by rule a dyspeptic. He is a razor-faced, lantern-jawed, thin, nervous man. This is partly the effect of climate, and partly that of diet and regimen. In the old days of bran

bread and prayers before daylight in the colleges, and long morning walks before breakfast, and suicidal, consumptive habits, it required a pretty tough man to live through his studies at all. We are now doing this thing better, but we have not reached the highest outcome of the change, and shall not reach it, probably, for several generations. But we have come to the recognition of the very important fact that it does not toughen a man to reduce his diet, to cut short his sleep, to take long walks on an empty stomach, and to indulge in cold baths when there is no well-supported vitality to respond to them. We have come to the conviction that, for a useful public life, brains are of very little account if there are no muscles to do their bidding. In short, we have learned that without physical vitality the profoundest learning, the most charming talents, and the best accomplishments are of little use to a public man, in whatever field of professional life he may be engaged.—*Scribner's Monthly*.

—The Creator has so arranged the external world as to hold forth every possible inducement to man to cultivate his higher powers, nay, almost to constrain him to do so. The philosophic mind, in surveying the world as prepared for the reception of the human race, perceives in external nature a vast assemblage of stupendous powers too great for the feeble hand of man entirely to control, but kindly subjected within certain limits to the influence of his will. Man is introduced on earth apparently helpless and unprovided for as a homeless stranger; but the soil on which he treads is endowed with a thousand capabilities of production, which require only to be excited by his intelligence to yield him the most ample returns.—*Combe*.

—For the past ten years the cost of liquors in the United States has been six thousand million dollars, producing the death of five hundred thousand persons by drunkenness. Think of this, and then think of the poor wives, widows, and orphans this liquor has made; the desolate homes, the bleeding hearts; the wretched beings it has sent to prison and to the gallows, to poor-house and asylum, and say if we should not, as a nation, have some fears for our safety if these things long continue.

—The relation between what a man eats and his other actions, between indigestion and immorality, is well shown by the fact that Philip ordered an *auto de-fé* after a meal of gooseberry tart which had disagreed with him.

LITERARY MISCELLANY

Devoted to Natural History, Mental and Moral Culture, Social Science,
and other Interesting Topics.

TEMPERANCE.

If thou well observe

The rule of not too much, by temperance taught,
In what thou eat'st and drink'st, seeking from thence
Due nourishment, not gluttonous delight,
Till many years over thy head return;
So mayest thou live, till like ripe fruit thou drop
Into thy mother's lap, or be with ease
Gathered, not harshly plucked, for death mature.

—Milton.

The Mother's Work.

BY MRS. E. G. WHITE.

No work can equal that of the Christian mother. She takes up her work with a sense of what it is to bring up her children in the nurture and admonition of the Lord. How often will she feel her burden's weight heavier than she can bear; and then how precious the privilege of taking it all to her sympathizing Saviour in prayer. She may lay her burden at his feet, and find in his presence a strength that will sustain her, and give her cheerfulness, hope, courage, and wisdom in the most trying hours. How sweet to the care-worn mother is the consciousness of such a friend in all her difficulties. If mothers would go to Christ more frequently, and trust him more fully, their burdens would be easier, and they would find rest to their souls.

Jesus is a lover of children. The important responsibility of training her children should not rest alone upon the mother. The father should act his part, uniting his efforts with those of the mother. As her children, in their tender years, are mostly under her guidance, the father should encourage and sustain the mother in her work of care by his cheerful looks and kind words. The faithful mother's labor is seldom appreciated. It is frequently the case that the father returns from his business to his home, bringing his cares and perplexities with him. He has no cheerful smile for home, and if he does not find everything for his accommodation, and to meet his ideas, he expresses his disappointment in a clouded brow and censoring words. He does not take into the account the care the mother must have had with the restless children, to keep everything moving smoothly. Her children must have her time and atten-

tion, if they are brought up, as the apostle directs, "in the nurture and admonition of the Lord."

The Word of God should be judiciously brought to bear upon the youthful minds, and be their standard of rectitude, correcting their errors, enlightening and guiding their minds, which will be far more effectual in restraining and controlling the impulsive temperament than harsh words, which will provoke to wrath. This training of children to meet the Bible standard will require time, perseverance, and prayer. This should be attended to if some things about the house are neglected.

Many times in the day is the cry of, Mother, mother, heard, first from one little troubled voice and then another. In answer to the cry, mother must turn here and there to attend to their demands. One is in trouble, and needs the wise head of the mother to free him from his perplexity. Another is so pleased with some of his devices he must have his mother see them, thinking she will be as pleased as he is. A word of approval will bring sunshine to the heart for hours. Many precious beams of light and gladness can the mother shed here and there among her precious little ones. How closely can she bind these dear ones to her heart, that her presence will be to them the sunniest place in the world. But frequently the patience of the mother is taxed with these numerous little trials, that seem scarcely worth attention. Mischievous hands and restless feet create a great amount of labor and perplexity for the mother. She has to hold fast the reins of self-control, or impatient words will slip from her tongue. She almost forgets herself time and again, but a silent prayer to her pitying Redeemer calms her nerves, and she is enabled to hold the reins of self-control with quiet dignity. She speaks with calm voice, but it has cost her an effort to restrain harsh words and subdue angry feelings, which, if expressed, would have destroyed her influence, which it would have taken time to regain.

The perception of children is quick, and they discern patient, loving tones from the impatient, passionate command, which dries up the moisture of love and affection in the hearts of children. The true Christian mother will not drive her children from her

presence by her fretfulness and lack of sympathizing love. As the parents wish God to deal with them, so should they deal with their children. Our children are only the younger members of the Lord's family, intrusted to us to educate wisely, to patiently discipline, that they may form Christian characters, and be qualified to bless others in this life; and enjoy the life to come.

Many parents do not strive to make a happy home for their children. The pleasant rooms are closed for visitors. The pleasant face is put on to entertain visitors. Smiles are lavished upon those who do not prize them, while the dear members of the family are pining for smiles and affectionate words. A sunny countenance and cheerful, encouraging words will brighten the poorest home, and be as a talisman to guard the father and the children from the many temptations that allure them from the love of home to the dram-shop, or scenes of amusement which lead away from purity and morality.

But the work of making home happy does not rest upon the mother alone. Fathers have an important part to act. The husband is the house-band of the home treasures, binding by his strong, earnest, devoted affection the members of the household, mother and children, together in the strongest bonds of union. It is for him to encourage, with cheerful words, the efforts of the mother in rearing her children. The mother seldom appreciates her own work, and frequently sets so low an estimate upon her labor that she regards it as domestic drudgery. She goes through the same round day after day, week after week, with no special marked results. She cannot tell, at the close of the day, the many little things she has accomplished. Placed beside her husband's achievement, she feels that she has done nothing worth mentioning. The father frequently comes in with a self-satisfied air, and proudly recounts what he has accomplished through the day. His remarks show that now he must be waited upon by the mother, for she has not done much except take care of the children, cook the meals, and keep the house in order. She has not acted the merchant, bought nor sold; she has not acted the farmer, in tilling the soil; she has not acted the mechanic;—therefore she has done nothing to make her weary. He criticises and censures and dictates as though he was the lord of creation. And this is all the more trying to the wife and mother, because she has become very weary at her post of duty during the day, and yet she cannot see what she has done, and is really disheartened. Could the veil be withdrawn, and father and mother see as

God sees the work of the day, and see how his infinite eye compares the work of the one with that of the other, they would be astonished at the heavenly revelation. The father would view his labors in a more modest light, while the mother would have new courage and energy to pursue her labor with wisdom, perseverance, and patience. Now she knows its value. While the father has been dealing with the things which must perish and pass away, the mother has been dealing with developing minds and character, working, not only for time, but for eternity. Her work, if done faithfully in God, will be immortalized.

The votaries of fashion will never see or understand the immortal beauty of that Christian mother's work, and will sneer at her old-fashioned notions, and her plain, unadorned dress; while the Majesty of Heaven will write the name of that faithful mother in the book of immortal fame.

Our Children: or the Power of Habit.

CHAPTER ONE.

Two beautiful children were playing on the floor in an elegantly furnished apartment, one, a girl scarcely past her fifth summer, and the other, a sunny-haired boy, younger by at least two years. A living picture of happy innocence were these sportive children. No wonder that, ever and anon, the mother's eyes were lifted from the book she was reading, and fixed, with a loving earnestness, upon them; nor that, resting the volume in her lap, she murmured to herself, "precious ones!" and remained gazing at them for many minutes, until, observing her, the children left their play, and, as if drawn to her side by the invisible power of her love, came and leaned upon her, and looked up tenderly into her face. Receiving each a kiss, the children bounded away, and the mother, after following their motions with her eyes, lifted her book again, and commenced reading. But it was not long before the volume dropped from her hands, and, with a sigh so faint that it was scarcely audible, she leaned slightly forward, and became lost in reverie. While she thus sat, the door opened, and a man just in the prime of life, entered the room. Instantly the children sprang from the floor with cries of pleasure, and a smile went wreathing over the mother's face.

With his boy on one knee, and his little girl on the other, the man sat down close beside his wife, and said, tenderly,

"I thought you looked sober, as I came in, Ellen; or was it only my fancy?"

"I do n't know that it was all fancy," returned the wife, with a quiet smile.

"Why should you be sober or thoughtful, dear? Have we not all that heart can wish? With sunny faces like these around you, how can a shadow fall upon your spirits?"

"I could not ask a change for the present, Edward. My cup is full. It is from the uncertain future that a shadow comes."

"The present only is ours. Let us be wise, and enjoy the blessings it scatters about our feet."

"If these dear children could only remain as they are, innocent and happy, no thoughts would come to disturb the quiet of my heart. But that is not to be. Ah, Edward! To think of care and sorrow weighing down this head," and the mother laid her small white hand among the curls that clustered about the head of her boy, "or evil affections finding a home in this dear child's heart! I cannot tell you how sad the thought sometimes makes me feel."

"But how vain all this is, dear. We cannot know the future. All are not oppressed with care or sorrow, all hearts are not filled with evil; why, then, should such things be feared for our children? Surely, their promise is fair!"

"Few, perhaps, have so fair a promise," said the wife. "But where we can know nothing certain, the heart will, at times, feel the pressure of a doubt."

Just at that moment the bell announced dinner, and turned their thoughts from the sober train into which they had fallen.

The parties here introduced, were a wealthy merchant named Greenfield, his young wife, and their two beautiful children. Mr. Greenfield had married at the age of thirty-two, after having lived for ten or twelve years a life of pleasure and sensual gratification. Few men of his age had been through so much gayety and dissipation, and yet showed it so little; and there was none, except his wife, who knew that a single evil, of the many indulged in earlier years, had fixed itself upon him as a habit; and even she did not realize, in anything like an adequate sense, the consequences likely to flow from this habit, which showed itself, at times, in a too free use of intoxicating drinks.

Accustomed to take wine and spirits from youth upward, Mr. Greenfield's physical system gradually accommodated itself to the extra stimulant it was compelled to bear, and seemed not to be in the least injuriously affected by it. But this was only an appearance. Undreamed of by the young man, a morbid change was taking place, and a habit forming itself, which, ere long, was to become in him a "sec-

ond nature," and bear him onward, as a stream bears the boat that is launched upon its surface. Long before his marriage, the impulses of this "second nature" were felt; but not in a way to create any doubt or alarm in his mind. On convivial occasions, and at "wine parties," he sometimes indulged in drinking, until reason's light grew dim, and the senses lost their nice discrimination. But, saving a slight feeling of mortification, and a resolve to be more guarded in future, such occurrences did not produce any serious effect upon his mind.

At the age of twenty-five, Mr. Greenfield succeeded to a large and well-based mercantile business, which he continued with something of the intelligence, energy, and industry, that distinguished his father, who had founded it and built thereon a handsome fortune. Inheriting a love of accumulation, and inspired by an ambition to be among the wealthiest, he devoted himself to the duties of his counting-room, during the hours of business, with untiring assiduity. But when he left the atmosphere of trade, he entered that of pleasure, and sensualized his mind to a degree that would have startled him, had an image thereof been clearly reflected back upon his perceptions.

This life he led until the age of thirty-two, when he was united to a young and beautiful girl, the daughter of a merchant whose wealth quadrupled his own. Not solely by external considerations were the parties to this union influenced. A purer and stronger attraction drew them toward each other; and in joining their hands at the altar, their hearts acknowledged a deep and holy affection. And she who whispered her maiden vows, was worthy of his love. A great change took place in Greenfield about the time he entered into a marriage engagement. Gay company was abandoned for the society of his betrothed; and youthful follies and vices were no longer indulged, with the single exception of spirit and wine drinking, which he looked upon as nothing evil.

Tenderly did Mr. Greenfield love the gentle creature he had taken to his bosom; and when sweet children blessed their union, that love became a deeper and purer passion.

It is impossible for any one to pass a long period in sensual indulgence, such as had marked the early years of Mr. Greenfield's life, without having his mind debased in some degree, and the lower propensities stimulated beyond the limit of an easy rational control. A principle of integrity, strengthened by an earnest and sincere love for his wife and children, was all-sufficient to keep Mr. Greenfield above unlawful self-indulgence, if the

temptation to step aside into old paths assailed him. But corporeal pleasure, checked in one direction, naturally turned in another with a stronger current; and in the gratification of his palate, Mr. Greenfield sought to appease the cravings of an eager sensuality. He therefore took great delight in the table, and ate and drank, daily, far more than nature really demanded. Mere eating and drinking, for the sake of gratifying the taste, is an evil that grows, and the longer it is continued, the more power does appetite gain, and the weaker becomes the reason when it opposes itself to any self-indulgence.

Very soon after the marriage of Mr. Greenfield, his thoughts began to minister to his appetite; and, from a deliberate purpose, without reflecting that such was the case, he so arranged his business, that, on returning home to dinner, he could dismiss all care from his mind. An hour was always spent at the table, at the end of which period a cup of strong coffee was taken to aid his stomach in the disposition of an overplus of highly seasoned food, and two hours were spent in sleep, to give time for the wine and brandy, taken with a most imprudent freedom, to pass from his confused brain. This was the history of every day, at the time we have introduced him to the reader, about six years subsequent to his marriage, and had been almost from the first.

To have said that Mr. Greenfield went to bed drunk every day after dinner, would have been felt, both by himself and wife, as a base and cruel slander. Yet, in sober truth, it was even so.

It may seem strange to some, yet the intemperance of her husband was not a source of anxiety to Mrs. Greenfield, for she did not know his daily self-indulgence by that startling and appalling name. He never came home to her in liquor. He did not act unreasonably. His business was never neglected, nor were his evenings spent in clubs or convivial parties. But, when he indulged too freely, he concealed the fact under the mantle of sleep. Not only his wife was deceived, but Mr. Greenfield, by the very orderly way, so to speak, in which he indulged his appetite, remained half ignorant of the fact that he drank to intoxication almost daily.

On the day in which we have introduced the merchant to our readers, he came home, as usual, with his thoughts more fully occupied with what he was to eat and drink, than with anything else. Slight expressions of impatience, made on more than one occasion, at having to wait a short period beyond the usual dining hour, had caused his wife so to arrange affairs as to have dinner announced

in as brief a space as possible after he came in from his business. But a few minutes, therefore, elapsed before the bell rang, and Mr. and Mrs. Greenfield, each holding a child by the hand, descended to the dining-room. A glass of brandy and water came first in order, by way of preparation for the viands that were to enter, successively, into Mr. Greenfield's stomach. Then he took his plate of highly seasoned soup, and ate it with the relish of an epicure. Between his soup and fish came another glass of brandy and water; and with the meats, two or three kinds of which were on the table, salads, condiments, and brandy were mingled in liberal proportions. During the early part of the meal there was little conversation; but after the brandy and rich food had begun to stimulate the blood of Mr. Greenfield, his tongue became free, and he had much to say that was interesting and agreeable to both his wife and children. Before, however, the dessert had been eaten, conversation began to flag, for the merchant was losing the easy control of his vocal organs. With the dessert came a bottle of wine, a glass of which was taken by Mrs. Greenfield; her husband drank the rest.

When all of the courses had passed, and while the merchant was sipping the last of his bottle of wine, a single cup of strong coffee, almost as black as ink, was brought in by a servant. In this three or four large lumps of sugar were dissolved, making the liquid like syrup. After taking this leisurely, with a spoon, Mr. Greenfield ascended to his chamber, with every sense confused, and really so much intoxicated, that, if he had ventured into the street, he would have reeled along the pavement. There, torpid as an anaconda after dining upon a deer, he slept away the effects of his debauch, for such it really was.

Mrs. Greenfield, who had eaten, as she always did, lightly, passed the afternoon in reading, after having sent her two children out to take the air. They returned before their father came down, and were clambering about their mother, and telling of all they had seen, when he joined them in the drawing-room, his face red and tumid, and his whole appearance that of one almost as much asleep as awake. Not until after tea did he seem like himself again. Then, with a heart full of affection for his wife and children, and a mind clear and intelligent, he passed the evening in the enjoyment of true domestic happiness. He sported with his little ones, Henry and Florence, for an hour, until sleep weighed gently down their eyelids; and after they were laid to rest, he bent over them, and gazed upon their beautiful faces, more beautiful in sleep, with a feeling of tenderness not

to be uttered in words. Deeply and fervently did he love these gentle ones. Their babes asleep, Mr. and Mrs. Greenfield spent the evening in reading and conversation, the time passing pleasantly with both. At the hour of retiring, Mr. Greenfield ordered a bottle of wine. His wife took a single glass, as at dinner time, and he drank the rest.

On the next morning, Mr. Greenfield felt a nervous tremor and sinking, to subdue which, he took, soon after rising, a glass of brandy. This made all right and prepared him to enjoy his breakfast, and to go forth and enter upon the business of another day. At twelve o'clock a lunch was taken, and, with this, another glass of brandy, and at three o'clock, he returned home to deprave himself by the indulgence of a groveling and inordinate appetite, as he had done the day before.

The history of one day in the life of Mr. Greenfield, gives the history of years. Thus he had gone on, almost since the time of his marriage, and the evil, as a natural result, was increasing. Having presented this history of a day, in order to give a clearly discernible cause for results which we shall exhibit in the course of our narrative, we will now pass to a portrayal of the sad effects we design to present. Let the reader bear in mind that the habit of drinking was formed at the time of Mr. Greenfield's marriage, and that this habit had daily confirmation from that period onward.

CHAPTER TWO.

Two lovelier children than those of Mr. and Mrs. Greenfield, are rarely seen. Florence grew daily like her mother; but Henry had every feature of his father, and there was a striking resemblance in their dispositions. As the boy's mind opened, this became more and more apparent. By both of their parents were these children tenderly loved; but, for Henry, a certain feeling of pride mingled with affection. As year after year went by, the boy's intellect expanded with wonderful rapidity, and he gave promise of future eminence when manhood came to give maturity, force, and character, to his mind.

The power of habit is very strong; even the habit of putting a limit on sensual indulgence. By this power of habit was Mr. Greenfield saved from becoming an abandoned drunkard. Business demanded a certain portion of his time, and, in order successfully to attend to this, he kept himself free from the disturbing effects of liquor during the business part of the day. True, he took a glass of brandy every morning early; but this was to restore to his own stimulated and weakened nerves the artificial strength that had wasted itself

during the night; and he took another glass with his luncheon at twelve o'clock, but that produced about the same effect as his morning glass, and did not, sensibly, cloud his mind. It was after the business of the day was over that he gave the reins to his appetite, and then he had leisure to sleep off the effects.

Thus it went on, day after day, and year after year, with but a small apparent increase, except to the eyes of his wife, who could see that the indulgence was freer than in former times, and the stupor that followed, deeper and more apoplectic. There came, too, a certain dullness of the perceptions, and an increasing sensuality, that, while it did not alarm her mind, for she hardly understood its meaning, sensibly oppressed her feelings. But the veil at last fell from her eyes, and fell suddenly, and the eyes of her husband were opened at the same time, not by any suddenly occurring event, but by the introduction into their minds of a clearly seen truth.

Henry had grown up, in everything meeting the expectations and wishes of his parents, until he had reached the age of eighteen, when a sudden fear in regard to him took hold of his parents' hearts.

A gentleman, well advanced in years, of much observation and reflection, dined with Mr. Greenfield about this time. An hour earlier than usual, the merchant came home with this gentleman, and while they sat conversing, something led to a remark on the power of habit, and the latter said,

"We all acknowledge this power as affecting ourselves, but how few of us think of its influence upon our children. And yet it is an undoubted fact that we transmit to our offspring predispositions in exact agreement with any habits of good or evil that we may confirm in ourselves."

"Do you really think so?" inquired Mrs. Greenfield, with much interest apparent in her voice.

"There is not a question of it, madam," was replied. "Do we not see in children a uniform resemblance to their parents, both in body and mind? There could not be a more perfect likeness between two persons than there is between you and your daughter, and the same may be said of Henry and his father. You can best tell how nearly their mental qualities correspond with your own. Now, the mind is made up of affections, which take forms of thought, and by means of the body produce actions. It is not thought, nor is it action, that parents transmit to their children, but affections, and these must be similar to their own. These affections, as they gain strength, take to themselves appropriate thoughts; and as the

body matures, action in correspondence follows. Of course, the thought and action will be either good or evil, in agreement with the affections that produced them."

"There is force in that," said Mr. Greenfield, with a thoughtful air. "But it is very wonderful! We do not give to our offspring a body fully formed; nor do we give thought; but only a mysterious spiritual organism, with power to take, from the higher elements of nature, materials with which to elaborate a body, in perfect conformity to its wants in the physical world, and with power to act by means of thought."

"Yes; that is all. It is our affections, our propensities or qualities of mind, that we transmit to our children—and this is why their bodies resemble ours—for it is the soul that forms the body for its own use, and flows into and animates it with what is peculiarly its own. Therefore, if we are in the love and practice of what is good and true, we give to our children inclinations to the same things; but if we are selfish, sensual, and evil-minded, our children will be born with like propensities. By the forms of affection that we make to ourselves, we bless or curse our children. If good, we help them on to a higher regeneration; if evil, we retard this good work, and may be the means of their destruction. The law which governs in the natural as well as the spiritual world, in the body as well as in the mind, is the law of similarity between cause and effect. A bitter fountain never has sent forth and never can send forth sweet water. An evil-minded father cannot give pure affections to his child. The history of the world's declension, since the fall of man, sadly corroborates this."

"What a momentous truth!" ejaculated, or, rather, sighed Mrs. Greenfield. "And yet, who thinks of it? Whose love of children leads to a denial of selfish impulses?"

"Alas! that it is so," returned the friend. "Men toil early and late, to accumulate wealth to bless their children, but never think of restraining a selfish impulse, or overcoming an evil desire, in order to lessen the transmissible force of evil."

"You spoke of habit affecting our children," said Mr. Greenfield. "Is that so to a great extent?"

"Undoubtedly. Whatever we do from long-continued habit, we make our own. Or, in other words, what is done from habit, impresses the mind permanently. The mind, you understand, of course, to be an organized spiritual substance, capable of receiving and retaining impressions. Now, only what the mind possesses, in regard to form and quality,

can it transmit; and things habitually done by any one must come from a fixed state or quality of mind."

"Then all our habits will be reproduced in our children?" remarked Mr. Greenfield, who felt a good deal of interest in what was said.

"All our habits will affect them, though all may never be fully reproduced in action, owing to counteracting forces. The habit of the father may be neutralized, so to speak, by a habit of the mother; or the inherited inclination may lie quiescent through lack of excitement. Still, as a general thing, in this sense, 'the sins of the fathers are visited upon the children unto the third and fourth generation.' The evil that any man does from a willing mind, gives to his children an inclination to do likewise. All sensual indulgences have a like effect."

"Then the children of an habitual drunkard," said Mrs. Greenfield, "will be inclined to intemperance!"

"Most assuredly, if born *after* the father's fall from sobriety. Some have wondered why, in this age, there was in the mass of the people such an inclination to excessive drinking. The reason is found in a widely spread hereditary predisposition to intemperance. Our ancestors, through one or two generations back, drank habitually. At first, drinking to intoxication was rare. But it was found that the people of a second generation had not the power to use wine or spirits within a sober limit; and the reason was, because they inherited a love for stimulating drinks. Drunkenness then became suddenly a wide-spread evil, and, at one time, almost threatened the ruin of society. It conquered the strongest intellects, and darkened the brightest genius. Everywhere appeared its ravages; in the palace and hovel, in the pulpit and at the bar, in the physician's office, and in the mechanic's shop. Like the locusts of Egypt, it covered the land. Various were the hostile attitudes assumed by the friends of temperance, in order to meet and overcome this terrible foe. But until, under Divine Providence, a principle of total abstinence from all stimulating drinks was adopted, resistance proved almost in vain. That met the evil, for it took away all excitement from the hereditary or acquired love of drink."

"It is plain, then," remarked Mr. Greenfield, "that if a man indulges freely in drinking he excites the hereditary love of liquor in himself, should he possess it, and transmits it with accumulated force to his children?"

"Without doubt, this is so. And were it

not that most children of drinking parents are born before their progenitors have indulged the degrading appetite to a serious extent, a state of things incomparably worse than we have ever seen would have existed."

Dinner was announced at this stage of the conversation, and Mr. and Mrs. Greenfield conducted their guest to the dining-room. Henry was at college, and Florence at a boarding-school. The dinner party consisted, therefore, of but three persons. Upon the table were two decanters, one containing brandy, and the other old rye whisky; and on a side table was a wine cooler containing four bottles of wine. After the first course had passed, Mr. Greenfield handed the brandy to his guest, and said,

"Here is some fine old brandy from the London docks. Will you try some of it?"

The gentleman smiled, and replied,

"Excuse me, if you please. It would be a dangerous experiment for me to put a glass of that to my lips."

"Indeed! Why so?" returned Mr. Greenfield, evincing some surprise.

"You remember the conversation which has just passed. I have a birthright fondness for all kinds of intoxicating drinks, and, at one time of life, almost destroyed myself, body and soul, by its indulgence. But by total abstinence I was saved. To taste again, would only excite and inflame the dormant appetite, and for me to tempt myself by such an act would be little less than insanity."

Mr. Greenfield took the decanter of brandy, which he had reached to his guest, and was about filling his own glass, when some thought, glancing through his mind, caused him to hesitate, and replace it upon the table.

"How long is it since you gave up the use of brandy?" he inquired.

"Thirty years."

"So long?"

"Yes. I am now sixty-five, and have not tasted a drop of brandy for thirty years. But I had drank long and deep before I abandoned the debasing habit, and alas! was afterward doomed to see the consequences of my error visited upon my child. In the very prime of manhood, and when he gave promise of a brilliant, useful, and honorable future, the accursed appetite which had come to him as an heir-loom through two generations, overmastered him, and he fell never to rise again. My son fills a drunkard's grave."

The old man's voice trembled, and there was a flush of feeling on his face. But the signs of emotion passed quickly, and he added,

"Have I not good reasons for letting the cup pass me untasted?"

"Reasons the most powerful," replied Mr.

Greenfield, with much seriousness of manner.

A conversation so sober did not suit a pleasant dinner occasion, and the guest changed it to a more cheerful theme. One course followed another, and strange to tell, the brandy remained untasted, an occurrence that had not taken place for nearly thirty years where Mr. Greenfield was at the table.

With the dessert came some choice wines, and the bottle was again handed to the guest. But he declined with graceful politeness and said,

"To a morbid appetite, even wine is a poison, and stimulates the mind into a temporary insanity. I dare not taste it."

"Surely, wine will not have that effect," said Mr. Greenfield.

"It will, assuredly. There is no law for a man whose taste has been corrupted, but that of entire abstinence."

Mr. Greenfield filled his own glass, and that of his wife; but the latter remained untouched. While taking the dessert, the merchant drank two or three glasses of wine, and then took his usual cup of strong coffee. For the first time in many years he retired from his own table a sober man. He had strange feelings; for the singular conversation of his guest had turned his thoughts into an entirely new current. He could think of little else, save hereditary transmissions. The question forced itself upon him, "How far have I disturbed the equilibrium of my son's mind, by giving him some inordinate propensity confirmed in myself by habit?" And he trembled in spirit, as he remembered at how early a period in life he had indulged himself deeply in the pleasures of drinking.

Not far different from those of her husband were the feelings of Mrs. Greenfield. The guest retired; but he left behind him troubled thoughts. He had brought in a light which revealed an unimagined danger; and they who had been happy in their blind security, were now trembling with alarm.
—*T. S. Arthur.*

(To be Continued)

Home Conversational Training.—There is no nation more fluent in conversation than the American. The French are more voluble, perhaps, their language permitting greater rapidity of pronunciation than the English. Our best conversationalists are not rapid talkers. One trouble with us is, each one likes to do all the talking, therefore Americans are not good listeners. But mere talking is not conversation.

In almost all home circles there is much talking done during the day, but we fear there are few who do not reserve their most

brilliant conversational powers for other assemblages than the home group. Many a father comes home tired; he has worked hard and talked a great deal, told amusing anecdotes and displayed much wit. He has come home to rest. He takes out his paper, and is soon oblivious to everything around him. Wife would like to tell him many of the harassing afflictions of the day, and would like to hear some of his interesting experiences, but if he were a deaf mute he could not be more silent, only an occasional grunt answering her many attempts at conversation; and the children, except the good-night kiss, and often not even that, are not noticed. Such a home, whether the abode of wealth or otherwise, cannot be a healthy and happy one.

As a parallel, draw around the evening lamp of another home circle. The father tells the anecdotes from the papers as he reads them; mother laughs her sweet, low laugh, and the children burst into merry ha! ha's! To watch them as they ask questions, and listen to the answers and patient explanations, the wonderment, interest, and thought imprinted on their young faces, is a picture for an artist. This home education is a heritage more valuable than land or money; and one beautiful recompense in life is, that in making others happy we bring happiness to ourselves. Parents who practice self-denial, and endeavor, by cheerful conversation and playful wit, to enliven home life, will reap a rich reward in the better thoughts and nobler actions of their children, and will experience the truest and best contentment themselves.—*Baltimore American.*

The Jew.—The Jew still walks the earth, and bears the stamp of his race upon his forehead. He is still the same being as when he first wandered forth from the hills of Judea. If his name is associated with avarice and extortion, and spoken in bitterness and scorn, yet, in the morning of history, it gathers round it recollections sacred and holy.

The Jew is a miracle among the nations. A wanderer in all lands, he has been a witness of the great events of history for more than eighteen hundred years. He saw classic Greece when crowned with intellectual triumphs. He lingered among that broken but beautiful architecture that rises like a tombstone over the grave of her departed splendor.

The Jew saw Rome, the "mighty heart" of nations, sending its own ceaseless life's throb through all the arteries of its vast empire. He, too, has seen that heart cold and

still in death. These have perished, yet the Jew lives on—the same silent, mysterious, indestructible being. The shadow of the Crescent rests on Palestine, the signet of a conqueror's faith—still the Jew and his religion survive. He wanders a captive in the streets of his own once queenly Jerusalem, to meditate sadly and gloomily on the relics of ancient power. Above him shines the clear sky, fair as when it looked down on the towers of Zion; but now, alas! it beholds only a desolate city and an unhappy land. The world is his home. The literature of the ancient Hebrew triumphs over all creeds, and schools, and sects. Mankind worship in the sacred songs of David, and bow to the divine teachings of Jesus of Nazareth, who also was a son of Abraham. Such is the Jew. His ancient dreams of empire are gone. How seldom do we realize, as we see him in our city streets, that he is the creature of such a strange, peculiar destiny. Age has not changed him, neither has country nor climate. Such is the Jew, a strange and solitary being, and such the drama of his long and mournful history.—*Sel.*

Pipe Organs.—The invention of this powerful musical instrument is attributed, by some, to Archimedes, 220 B. C. Others attribute its origin to an Alexandrian barber, 120 years later. It was introduced into Europe from Greece, and was first used in churches in the seventh century of the present era. An old writer tells of an organ which had twelve pairs of bellows, and could be heard a mile away. It is stated that there was an organ in Jerusalem which could be heard at the Mount of Olives. The largest organ in Europe is located at Haerlem. It has 8000 pipes and 60 stops. An organ at Amsterdam has a set of pipes which imitate a chorus of human voices.

—Augustine, one of the earliest writers of the present era, very beautifully said, "Happiness is granted to the good, not because they desire to live happily, but because they desire to live well."

—It is useless to attempt to reason a man out of a thing he was never reasoned into.

—To be vain of one's rank or place is to disclose that one is below it.

—Necessity reforms the poor, and satiety the rich.

DIETETICS.

"Eat ye that which Is Good." As a Man Eateth, so Is he.

—Actual experiments made upon nursing women with such substances as iron, arsenic, zinc, mercury, and antimony, which are readily detected by chemical analysis, show that they re-appear in the breast-milk after a few hours in sufficient quantity to affect the sucking infant. The moral to be drawn from this fact is that the mother should be very careful in her diet while nursing a child.

Adulteration of Bread.—In European countries, flour is frequently adulterated with gypsum, lime, powdered spar, etc. The presence of these objectionable articles may be detected thus: Mix a small quantity of the flour with double the amount of potash saltpeter. After igniting the mass, dissolve the residue in water and add hydrochloric acid. A precipitate indicates the presence of earthy matters.

Spices.—The almost universal fondness for spices is a curious illustration of the readiness with which the simplicity of the natural taste may become depraved. Pepper was used before B. C. 400. Pliny speaks of its use in his day, and expresses his astonishment that men should esteem it so highly when it has not a sweet taste nor attractive appearance, nor any other desirable quality. We can heartily sympathize with Pliny in his astonishment.

Nutmegs and mace are quite extensively used as spices in this country and Europe; but neither one is ever used as a condiment in the country from which they were first brought, the Isles of Banda.

Fattening.—Most people do not know that the process of fattening is one of disease producing; yet all observing farmers are aware that an animal does not fatten when allowed to roam at large. In harmony with this fact an agricultural paper, in giving instructions respecting the fattening of chickens, remarks, "It is hopeless to attempt to fatten chickens while they are at liberty." The same journal recommends that a dozen chickens be put together in a coop three feet long and one and a half feet wide, and warrants them to fatten in two weeks if they are daily stuffed with food to their utmost capac-

ity. An animal fattened in confinement is a diseased animal; and persons who eat the flesh of such animals are liable to become contaminated by the disease elements engendered within their systems.

Vegetables vs. Gout.—Speaking at a vegetarian banquet at Leeds, in England, the other day, the Rev. C. H. Collyns said he was descended from a long line of gouty ancestors. He had been a sufferer from gout, but having, more than ten years ago, become a total abstainer, and having, not long afterward, become a vegetarian, he had gradually driven the gout out, and could give no other reason for it except pure and wholesome living—total abstinence from alcoholic liquors and from flesh-meat. The teeth of man showed that he was not a carnivorous, but a frugivorous animal, and the stomach, he contended, also showed that it was intended to receive, not flesh, but the fruits of the earth. He would not go back to his former mode of life for anything that could be given to him. Vegetable diet agreed with the delicate as well as the robust. It was wholesome and enjoyable, and to it he owed a new issue of life.

Mosaic Dietary Laws.—The *Crisis*, of Boston, quotes the following from the *Israelite*:—

"It is strange that the Mosaic prescriptions for man's diet, taken chiefly from the tabernacle rites, have become, by common consent, the bill of fare of civilized society, with variations, of course. In the cities, especially, the main articles of food are those which the laws of Moses recommended. When in former days people dieted largely upon pork, many became hogs themselves, and many diseases still raging among men, have been conveyed into the human system by the consumption of pork, rabbits, hares, and other animal food which the law forbids.

"Physiologists understand well enough the importance of diet, and yet none have gone to the trouble of giving the Mosaic dietary laws a thorough scientific examination. Here are the Jews, after 3,000 years, a healthy, intelligent, energetic, and fertile race. Much is said about their longevity, temperance, charitable disposition, etc., still

no scientist has taken the trouble to examine the food on which this race lived and thrived. The point is certainly, scientifically, very important."

Fruits.—People cannot be too often reminded of the importance of securing an abundance of fruits of all kinds now, while these luxuries are abundant, for use when they cannot so readily be obtained. Every family ought to have from one to three hundred quarts of canned fruits of various kinds. Strawberries can be kept as easily as any other fruit, if proper care is used in canning. Next month we will give a full description of the way in which we can fruit at the Sanitarium. Raspberries, cherries, blackberries, and whortleberries are all most excellent fruits, and very easy to can if only a little care is used to secure the conditions favorable to preservation. Even rhubarb, an early acid vegetable, is very valuable, when nicely canned, for winter use. It is not yet too late to secure any of these. Green peas and corn may also be canned to advantage. Now is the golden time for the hygienist to secure a liberal bill of fare for the year.

Effect of Diet on the Liver.—Almost every other man we meet is complaining about his liver. One has a "torpid" liver; another has "congestion" of the liver; another has a pain in his side, which he is confident is due to disturbance of his liver. Complaints are loud and general against the liver, but no one thinks of entering a complaint against the diet, which is the real source of difficulty. Careful investigation and examination of the liver, after death, have proven the deleterious effect which certain articles of food have upon the liver.

The drunkard's liver becomes hardened by the alcohol which he imbibes. The liquid poison has the same damaging effect upon his brain.

The livers of people who use a great deal of fat—fat meat, butter, lard, rich cakes, pies, etc.—become infiltrated with fat. They undergo a process called fatty degeneration, in which there is an actual change of the tissue to fat. This change is favored by sedentary habits. The liver of the domestic cat is almost always fatty.

The natives of the East Indies, as well as of Central and Southern Africa, together with Mexico and other warm climates, make great use of pepper, mustard, turmeric, and other irritating spices. The result of this practice is not only derangement of the stomach, but the

production of induration of the liver, a disease which was formerly attributed to the climate of those regions, on account of its prevalence, but is now well known to be the result of the use of the deleterious articles named. Lovers of pepper and mustard should look out for their livers.

It has been observed that cattle that have been overfed, or fed on warm slops, have badly diseased livers. The organ is found enlarged, in some cases very greatly, and its surface is covered with red spots and ragged, ulcerated patches, indicating the presence of disease of so extensive a character as to render the organ almost wholly useless.

The same causes which produce these grave effects in savage and semi-civilized human beings, and in lower animals, will produce the same results in civilized beings. Pepper and mustard are no better for a New York City gourmand than for a Hottentot or a Mexican Indian. Slop food—highly seasoned soups, gravies and "rich" sauces—will work for human livers the same mischievous results that follow its use by lower animals.

Strawberry Short-Cake.—Make a thin batter of fine oatmeal. Let it stand over night. In the morning, add an equal quantity of graham flour and grated cocoanut in proportion of a teacupful to each quart of flour. Bake in gem-pans in a quick oven. When cold, cut in halves, and cover each half with ripe strawberries. Raspberries, whortleberries, blackberries, or stewed cranberries may be served in the same way. If the fruit is quite sour, date sauce may be added.

Green Peas.—Pick and shell green peas, being careful to avoid dirt, as the peas are injured by washing. Put into water enough to cover them. Cover close, and cook gently fifteen to twenty minutes. Some boil the pods about twenty minutes and then skim them out and boil the peas in the same water. A few young potatoes or beets may be cooked with the peas if desired.

Add a little milk or cream, and a pinch of salt until the taste becomes accustomed to food without this saline condiment, as it will in a very short time if a persevering effort is made in that direction.

—Was Diogenes a cannibal, or a vegetarian? He taught that it was as proper to eat the flesh of human beings as that of lower animals.

THE HEALTH REFORMER

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J. H. KELLOGG, M. D., EDITOR.

TERMS, \$1.00 A YEAR.

Meeting of the Calhoun County Medical Association.

THE Calhoun County Medical Association held its Third Quarterly Meeting, Tuesday, June 26. A single session was held, lasting from 2 o'clock to 6:30 p. m., at which the regular profession of the county was well represented.

Mrs. Dr. Garcia, of this city, the essayist of the occasion, presented a very able paper on the subject of "Uterine Pathology." Although obliged to dissent somewhat from some of the views advanced, respecting the causes of uterine disease, we think the paper well worthy of commendation as an ably written essay.

After the reading of the essay, proposals for membership being called for, the names of D. C. Hawxhurst, D. D. S., M. D., of this city, Miss Kate Lindsay, M. D., of the Sanitarium, and myself, were proposed for membership, and after reference to the committee on memberships, the persons named were severally elected by unanimous ballot.

A very interesting case of Pott's disease of the spine was presented before the society by Dr. O. S. Phelps, of Homer, Mich. He had been treating the patient with Dr. Sayre's plaster of Paris splint very successfully, and brought him before the Association for the purpose of illustrating the method of applying the splint. Much interest was manifested in the case.

After a short recess, during which the bandage was applied by Dr. Phelps, with the assistance of Dr. Stoddard, of Albion, and others, the members joined in a discussion of the nature, cause, and proper treatment of diphtheria, the question being opened by Dr. Phelps. Drs. Cox, Crosby, Montgomery, and Stoddard expressed their views on the subject. With one or two exceptions, the de-

cidated opinion was expressed that the use of caustics in this disease is not the proper method of treatment. Several physicians employed the inhalation of steam, or of the vapor of water acidulated with vinegar, and found it very efficacious in allaying the irritation of the throat present in this disease. The president of the association had himself suffered a severe attack of the disease, and stated that the remedy which afforded him the greatest relief was the inhalation of the vapor arising from the slaking of lime. His method of inhalation was to place the lime in a tea-pot, and inhale the vapor at the nozzle. The discussion of the subject is to be continued at the next meeting, and promises to be very interesting.

Altogether, the meeting was a very interesting and profitable session. We were much pleased with the liberal spirit manifested by nearly every member present, and by the numerous evidences of progress in the right direction. The latter disposition was especially manifest among the younger members of the society.

Prevalent Manias.

THERE will always be a "mania" of some sort prevalent in the community at large. As one "mania" wanes, a new one arises out of the depths of ignorance or superstition, to take its place. There seems to be a fashion in manias. Just now, medical manias are in style, and promise to furnish entertainment to those who are never at home unless astride a hobby for some time to come. The *Scientific American* thus discourses on this subject:—

"The blue-glass mania has had its day. The bar-rooms are removing their signs of 'cocktails in blue glass,' and the cerulean goblets, wherein those seductive and presuma-

bly sun-strengthened beverages were dispensed, may be purchased for small sums from the cheap china vendors on our sidewalks. We notice a diminution in the sheets of blue glass hung in windows of private dwellings, 'signs,' some one calls them, 'to inform the public of the gullibility of the inmates;' and in fact the only evidence at hand which exhibits any vitality of the now rapidly collapsing blue-glass mania is the production of a cheap variety of note paper, called the 'Pleasanton,' because the pasteboard box in which it is contained has a blue glass lid. The General can doubtless explain the efficacy of the glass in this connection. Blue glass, therefore, has had its run, its inventor has earned his notoriety, and also the thanks of the glass-dealers, who have reaped a fine pecuniary harvest.

"Two new manias are at hand; to wit, the celery cure and metallo-therapy. 'Celery is the greatest food in the world for the nerves,' says one of our cotemporaries; and the information is traveling the length and breadth of the land. It is fashionable nowadays to call every ailment that flesh is heir to a nervous disease; and where our ancestors would have resorted to such homely remedies as a hot drink and simple cathartics, the present practice demands chloral, and bromides, and quinine, and strychnine, and phosphates, and rare chemicals without number. Of course celery is pleasanter to take than most drugs; and now that it is brought forward as a new nervine, plenty of people will use it. As it can do no harm, and, indeed, may actually work good by checking the too prevalent consumption of 'nervous specifics,' the mania is rather a benefit than otherwise, and should be encouraged. Wild celery, or smallage, is known to possess some narcotic effect, and is reputed as unhealthy. As regards the medicinal properties of cultivated celery, there are no utilizations of them in the United States Pharmacopœia; but as celery (*apium graveolens*) belongs to the same family as the parsley (*apium petroselinum*), it is probable that it would yield apiin and apiol, as such substances are obtained from the latter.

"The other mania, metallo-therapy, to which we have already briefly alluded, is perfectly harmless, and at present is confined to France. *Les Mondes*, of recent date, reports

another 'astonishing cure'—a child four years old this time, almost dead with meningitis. The metallo-therapy inventor enveloped the infant—there is no Children's Protective Society in France—in plates of iron and copper from head to foot. Half of the body was covered with one metal, half with the other, in order 'that both metals might have an equal chance of doing good.' In eight hours, the child revived; in six days, it was out of danger; in a month, it was well. Manufacturers of iron and copper plate may now consult with blue-glass makers as to how to advertise this."

Patent Medicines.

Now and then we encounter a scintillation of light, even from the darkest corners of dogmatism. A physician writes to the *Druggists' Advertiser* as follows, under the above heading:—

"As you are aware, the name patent was years ago given to compounds that were patented, but of late years refers to any empirical preparation, and usually they are put up by men unskilled in the science of medicine. Mankind are not satisfied with the application of so-called remedies to disease; too many die prematurely in spite of the skill of the physician; so outsiders try to prepare and place upon the market what many of them really suppose are beneficial and new compounds. The elder and younger Swaim, Drs. Schenck and Jayne, together with Wishart, sent out during their lives tons of circulars, certificates, and almanacs, proving beyond any doubt that they assuredly had discovered the elixir of life, and any man who read and believed would be a fool to die. Yet, each and every one of the above compounders, and thousands of their followers, are in their graves, despite the alteratives and *continuents*, and what is a little embarrassing, none of the compounders lived to be old men.

"I am a little fond of the Ecclesiasticus of the Apochrypha, written 200 years before Christ. In it you will find the following verse: 'Who regardeth dreams is like him that catcheth at a shadow and followeth after the wind,' and in the 38th chapter you will find a few verses apropos to the subject of

my theme; for instance, 'The Lord has created medicine out of the earth, of such doth the apothecary make confections, and of his work there is no end.' Now it seems that for at least 2,000 years have the pharmacist and physician, aided by outsiders, been trying to cure disease and head off the herald of death; and I believe if a full list of all the medicines and medicinal preparations in the world were made, you could count 15,000 and not cover all of them. Sometime, for curiosity's sake, find the number described in the last edition of Wood & Bache's dispensatory, and then compare it with the first one they published, and then I believe you will come to this conclusion. No physician in the world can remember them all, and if he had one of the old apostles' superhuman power for one hour, he could write out on a man's hand the names of all medicines that should enter the human stomach. He could tell you that one alkali would, in the majority of cases, produce all the advantage to be obtained by using a score; that all compounds or simples that contain poisons should never enter the alimentary canal; that the great object in disease was to find the simplest preparations that would help the stomach and intestines to transform food into blood, and that the blood contains all the constituents necessary to the re-formation of the tissues, bones, or other parts of the body. This has been a conviction for thirty years and more, and every day we are giving only such simple preparations as by experience we find will assist the '*vis medicatrix nature*.'

England and Ireland Compared.—The following comparative statistics are interesting when considered with reference to the simplicity of habits and almost strictly vegetarian dietary of the majority of the inhabitants of Ireland:—

The population of England, in 1872, was twenty-three millions; of Ireland, about five and one-half millions. The proportion of illegitimate births is much less in Ireland than in England, being but 2.5 per cent. "In England the proportion of the deaths of males under five years of age was 41.49 per cent. In Ireland it was only 26.82 per cent. Out of 255,135 deaths of males in England,

there were 195 of persons registered as being ninety-five years old and upward. In Ireland the total number of deaths was 48,091, but of these no less than 368 were returned as of persons over ninety-five years of age. There were seventy-five in England who had attained the age of one hundred, but in Ireland the number was 303. Lastly, in England there were 1,514 suicides, while in Ireland there were only 102."

The above was condensed from the joint reports of the Registrar-Generals of England and Ireland. It may justly be considered as a complete refutation of the argument so often used in favor of animal food, that Englishmen are the greatest meat-eaters and the most healthful of any nation.

Take Care of the Teeth.—Most people are culpably reckless of the health of their teeth until they are hopelessly ruined, or so greatly impaired in structure as to be a constant source of pain and annoyance. It is a custom with many, whenever a tooth becomes so diseased as to cause pain, in consequence of this neglect, to resort at once to a dentist to have it extracted, no matter whether it can be saved by treatment or not. This practice is even worse than the first; and the dentist who will become accessory to such an improper course without first setting before his patient the ruinous consequences which must follow, is either too ignorant or too dishonest to be an honorable member of his profession.

Some writer has said that every tooth lost subtracts ten years from a person's life. Perhaps this statement might be modified a little; but the value of natural teeth can scarcely be estimated in money. Artificial teeth can never fully supply their place; hence the importance of retaining them as long as possible, even though it may be at much greater expense than would be required to secure artificial ones.

Salicylic Acid.—This drug, which has recently become quite popular as a remedy among regular practitioners, has heretofore been generally considered as a quite harmless remedy; but the French dentists now announce that this agent has very injurious effects upon the teeth. Several English physi-

cians have also noticed its injurious effects upon the bones. In one case it occasioned the destruction of the large bone of the leg in a patient who had taken it.

If these statements are true, and we have no doubt as to their reliability, the use of this dangerous drug ought to be discontinued at once. It is demonstrable that this acid causes an unnatural wasting of the mineral constituents of the bones, for which it has a powerful affinity.

Long Livers.—As a general rule, long livers are good livers. By "good living" we do not mean what is sometimes termed "good living," a life of conviviality, but we mean, instead, a life in conformity with the laws of health. There are some exceptions to this rule in the cases of persons whose constitutions have possessed such wonderful and uncommon elasticity and toughness that they have been enabled to attain advanced age in spite of their unhealthful habits of life.

Jean Lafitte, who is said to have died at the age of one hundred and thirty-six, preserved through life the habit of bathing two or three times a week. Jean d'Ontegro, who reached the age of one hundred and for-

ty-six, lived on corn and cabbage. The peer of centenarians, Pierre Lorton, who died at one hundred and eighty-five, lived upon a strictly vegetable diet.

Temperance and Sunstroke.—The London *Lancet*, the foremost medical journal of the world, says: "A man who keeps his house and his person, if we may so express it, well ventilated by opening the windows of the former and clothing himself rationally, who attends to the functions of his skin by 'tubbing' regularly, and who lives temperately, is a very unlikely subject indeed for sunstroke.

"Over and over again in India the immunity from sunstroke enjoyed by temperate men has been observed. It may be interesting now to recount Sir Charles Napier's description of his personal seizure while serving in India (as reported in Sir Ranald Martin's excellent work, 'The Diseases of Tropical Countries'): 'I had hardly,' writes Sir Charles, 'written the above sentence, when I was tumbled over with heat apoplexy; forty-three others were struck, all Europeans, and all died within three hours, except myself. I do not drink. That is the secret. The sun had no ally in liquor in my brain.'"

PEOPLE'S DEPARTMENT?

Devoted to Brief Discussions of Health Topics, Individual Experiences, and Answers to Correspondents.

Beginning at the Foundation.—We are pleased to see, now and then, a temperance worker who recognizes the fact that artificial stimulation is the real sin of drunkenness, and that it makes no real difference what the stimulating agent may be, the effect differing only in degree with the varying strength of the agent, and lesser stimulants serving only as stepping-stones to the use of greater ones. It is thus that the use of spices, condiments, highly seasoned foods, with tea, coffee, and tobacco, is among the most prolific causes of intemperance. They create a desire for artificial stimulation that soon becomes uncontrollable, and requires more powerful stimulants for its gratification.

The following resolution, which strikes at the very root of the great national evil of drunkenness, was presented at the State Meet-

ing of the Woman's Christian Temperance Union, but, as we are informed, was not even entertained for discussion; we hope that the eyes of these earnest workers for temperance will soon be opened to the foes which they harbor within their own households, and which are doing more to lead their sons to drunkards' graves than all other causes combined:—

"Whereas, the appetite for intoxicating drinks has its foundation in the use of the lesser stimulants and stimulo-narcotics,—and inasmuch as prevention is better than cure, 'obedience better than sacrifice,'

"We therefore resolve to abstain from, and discourage the use of, all stimulating drinks and seasonings upon our tables and in our homes, in order to prevent intebriety in the rising and coming generations."

"Plain Facts."—This new work is receiving flattering notices from the press. Among others we quote the following from the *Boston Journal*:—

"We have examined 'Plain Facts about Sexual Life' with some care, and have read some portions of it at sufficient length to obtain a fair idea of the author's purposes and views; and we have not discovered anywhere the slightest indelicacy, either of matter or manner. While the topics are such as are commonly tabooed in ordinary reading and discussion, they are not such as society or the individual can afford to ignore; and when presented, as in the present volume, in a clear and intelligible style, and with evident honesty of purpose, they deserve careful attention. A great deal of crime and wretchedness would be spared if the principles laid down in this volume were even approximated in the life of the people. The information conveyed is of a sort that ought to be generally understood. Knowledge, judiciously imparted, on such topics is far more desirable than secrecy; and an unspeakable amount of suffering is doubtless due to a false delicacy which refuses to be enlightened concerning the most important physical facts. A book so intelligently written as this, therefore, should not lack for readers."

The *Boston Herald* comments upon the work as follows:—

"'Plain Facts about Sexual Life,' is a work that treats upon all subjects pertaining to the anatomy and physiology of reproduction, by J. H. Kellogg, M. D., of Battle Creek, Mich. Dr. Kellogg is one of the professors in the college at that place, and he announces that one of the prime objects of the work is to call attention to the great prevalence of sexual excesses of all kinds, and the heinous crimes resulting from such forms of sexual transgression, and to point out the terrible results which inevitably follow the violation of sexual law. It is a book well calculated to impart useful knowledge upon very important subjects, and its wide circulation by judicious persons would do much to improve the moral as well as the physical health of the community."

Another leading Boston journal, the *Transcript*, heartily indorses the work as follows:—

"It contains a great deal of information which should be made general, instead of being forbidden or kept in the background, and we can earnestly commend it to parents for their own guidance and instruction, as well as for the teaching of their children."

Successful Practice.—We are pleased to learn of the success of Dr. Anna Atwater, who has recently begun practice in Carroll, Carroll Co., Iowa. Besides attending to an increasing city and country practice, Mrs. Atwater delivers weekly lectures at her office which are well attended, in spite of the opposition and prejudice that prevails.

Work among the People.—All our agents report good success in canvassing for the *HEALTH REFORMER*, "Plain Facts," and other publications. The cause of hygiene is advancing. Graham bread, oatmeal, crushed wheat, and other articles of food which were stigmatized a few years ago, are actually becoming popular. So the good work advances.

A Pleasant Entertainment.—The patients of the Sanitarium, of this place, gave an exhibition, last Monday evening, of canes and fancy work. The affair was a decided success, the attendance being large. The programme was very interesting, and was well carried out. We will give a fuller report of the exercises next month.

Questions and Answers.

Hay Fever.—H. D., Ind., inquires for the treatment of hay fever.

Ans. A spare diet composed of fruits and grains, twice a day, with a daily warm bath for half an hour, the chest wrapper worn continually, fomentations applied to the chest and back of the neck, with the tepid nasal douche, will do very much to ameliorate the distressing symptoms of hay fever. The chest wrapper should be changed as often as it gets dry. For many persons it is necessary that they should leave the locality where they are living in order to escape this very unpleasant malady.

Influence of Smoking upon Wives.—M. J. S., Ind.: In reply to your question, we would state that the use of tobacco on the part of the husband may affect the wife in a most deleterious manner through the activity of the skin in absorbing poisons. The body of a tobacco-user is constantly emitting foul exhalations, which are taken into the system of the wife by absorption in case both occupy the same bed, and thus produce poisonous effects upon her system. Nausea, headache, nervousness, restlessness, and numerous symptoms we might name, are symptoms which may be produced in this way. Several years ago, when "boarding round"

as a district school teacher, we endured the torture, for a single night, of having for a bedfellow a man who used tobacco. We passed a restless night, though usually a sound sleeper, and awoke in the morning with a severe headache which lasted a week, nausea, and a general depression which entirely unfitted us for duty. A wife would be doing nothing more than demanding her just rights, should she refuse to occupy the same couch with a man who kept his system saturated and reeking with tobacco.

Slight Deafness.—J. O., N. Y.: The causes of deafness are so very numerous that we could not give you a prescription without a personal examination into the causes which produce the disease in your particular case. Electricity, if skillfully applied, might prove of the greatest benefit to you.

Sleepiness after Dinner.—T. J. S., Ga., asks: Why is it that people, especially farmers, are sleepy after dinner?

Ans. Sometimes after-dinner sleepiness is caused by overeating. The out-of-door employment of farmers gives them so acute an appetite that they are very apt to eat to excess. Especially is this the case when, as is usual, the appetite is goaded to repletion by exciting condiments and stimulating foods. Again, many farmers suffer from dyspepsia, of which the drowsiness after eating is a frequent symptom. The dietetic habits of farmers are perhaps the worst of those of any class of men, in consequence of which they are very generally subject to dyspepsia. Very likely the latter is your trouble.

Catarrh.—J. J. T., Rochester, N. Y., complains of a profuse greenish discharge from the nose, and wishes to know what is good for prevention and cure.

Ans. Your liver is doubtless in a very torpid and inactive condition, which is manifested in catarrh of the nasal cavity. Nothing but a thorough course of hygienic living and treatment will cure you. You ought to send for a home prescription.

Decaying Teeth.—M. S., Iowa, asks: Is there anything that will stop decaying teeth from decaying any more?

Ans. Yes; there are many things—that is, many things may be required to be done to stop decay. In the first place, all cavities must be filled. Then the teeth should be thoroughly cleaned and polished by a good dentist. Thirdly, they should be forever afterward kept scrupulously clean by the use

of the tooth-brush, soap, and powder, several times a day. Finally, the general health must be improved, if it be impaired, as this may be a potent cause of decay of the teeth.

Tan, Freckles, Etc.—F. S. N., N. J., asks: 1. What is the rationale of skin defects, such as tan, freckles, etc.? 2. Are the latter caused by sunshine? 3. Is there any remedy which is a lesser evil than the affliction? 4. What is the cause of regurgitation of food? 5. Is there any direct remedy not of the domain of constitutional treatment?

Ans. 1. Tan and freckles are the result of too great an increase of the pigment cells of the skin. In tan there is a uniform increase; in freckles the new cells are developed in patches. 2. Sun and wind are the chief agents in exciting this abnormal development. 3. There is no reliable remedy for tan or freckles, but protection from the sun and wind. 4. There may be various causes of regurgitation of food. One cause is dyspepsia. 5. No. The whole system must be renovated in order to cure the dyspepsia.

Muscular Weakness—Venison—Training Diet, Etc.—M. G. asks: 1. What is the matter of a young man who cannot write more than four or five lines without becoming so tired in the right shoulder that he is obliged to rest, yet can do such work as chopping without difficulty? 2. What is the percentage amount of nutriment in venison? 3. Is it as nutritious as beef or mutton? 4. Is it healthful to keep plants in one's sleeping room? 5. What is your opinion of "training diet"?

Ans. 1. The young man is suffering from weakness of the muscles of the shoulders. Electricity is indicated, with Swedish movements. 2. About 24 per cent. 3. Less nutritious than beef, about the same as mutton. 4. Yes. 5. "Training diet" is very good, with the exception of the raw beef which sometimes forms so large a part of it.

Catarrh—Epilepsy.—F. S., Mich., inquires: 1. I have catarrh. Will hygiene have any effect upon it? 2. A neighbor's son has fits; can he be cured at your institution?

Ans. 1. Yes; perseverance in hygienic living, with proper treatment, will cure catarrh. 2. He probably can.

Miss E. A. W.: Send description of disease, and we will give you some hints respecting it.

A complete home prescription will be sent for \$5.00.

FARM AND HOUSEHOLD

Devoted to Brief Hints for the Management of the Farm and Household.

To Protect Animals from Flies.—A gallon of warm water poured on a pailful of walnut leaves will make a safe wash for horses and cattle, and save them the annoyance of flies.

To Clean Kid Gloves.—A piece of white soap, a little sweet milk in a saucer, and a clean cloth folded two or three times. On the cloth spread out the gloves smoothly. Take a piece of flannel, dip it in the milk, then rub off a good quantity of soap on the wetted flannel, commence to rub toward the fingers, holding it firmly with the left hand. Continue the process until the glove, if white, looks of a dingy yellow; if colored, till it looks spoiled; lay it to dry and you will soon see that the glove looks nearly new. It will be soft and elastic.—*Household.*

To Destroy Insects.—“There is probably no better general insecticide than lime, especially for the vegetable garden, where it is readily applied to the soil or growing plants. The flea-beetles, which often attack cabbages and turnips in spring, may be driven away by dusting the plants with dry lime; and the grubs of the asparagus beetle, and the slugs of the saw-fly, which often strip the leaves of cherry, pear, and other fruit trees, quickly die if touched with this caustic substance.

“The larvæ of the potato beetle can make little progress on leaves covered with lime; still, when this pest is abundant, a more powerful poison is required to keep it in check. Nothing better has yet been discovered than Paris green mixed with flour at the rate of one pound of the former to fifteen of the latter, which is then dusted over the leaves while wet with dew.”

Remedy for Insect Bites.—“When a mosquito, flea, gnat, or other noxious insect, punctures the human skin, it deposits or injects an atom of an acidulous fluid of a poisonous nature. The results are irritation, a sensation of tickling, itching, or of pain. The tickling of flies we are comparatively indifferent about; but the itch produced by a flea, or gnat, or other noisome insect, disturbs our serenity, and, like the pain of a wasp or a bee sting, excites us to a remedy. The best remedy for the sting of insects is that which

will instantly neutralize this acidulous poison deposited in the skin. This is either ammonia or borax. The solution of borax for insect bites is made thus: Dissolve one ounce of borax in one pint of water that has been boiled and allowed to cool. Instead of plain water, distilled rose-water, elder or orange-flower water is more pleasant. The bites are to be dabbed with the solution so long as there is any irritation. For bees' or wasps' stings, the borax solution may be made of twice the above strength. In every farmhouse this solution should be kept as a household remedy.”

In case neither borax nor ammonia is at hand, a little soft soap or ashes should be moistened and applied at once to the bite or sting.

Look out for Germs.—Every one ought to know that most of the dangerous acute diseases, such as typhoid fever, cholera, spinal meningitis, with dysentery and other diseases prevalent at this season of the year, are produced by the reception into the system of germs. These germs, when received into the system, occasion great disturbance, and often cause death in spite of the most assiduous care and attention that physicians and nurses can give. The only safety lies in keeping these noxious intruders out of the system.

Disease germs are always present wherever decay of organic matters is in progress. If there is a foul smell anywhere in the vicinity, do not rest until its source is discovered. It may be a neighboring hog-pen, barnyard, or poultry house, a neglected cesspool or vault. The source of mischief may be even closer by. It may consist of a decaying woodpile, putrescent vegetables in the cellar, carrion under the house, a foul cistern, a neglected closet, an odorous wood-box, molding paper on the walls, or any one of a hundred other sources of putrefactive germs. Whatever the cause may be, search it out and remove it; and do not cease the search until the cause is wholly removed and the atmosphere of home wholly freed from these noisome enemies of life and health.

Beware of germs. Beware of bad smells. Wherever there is a bad odor there are myriads of poisonous germs. They go together. Rout them.

POPULAR SCIENCE?

In this Department Will Be Noted the Progress of Science, New Discoveries and Inventions.

Transparent Gold.—A gentleman employed in the mint at Philadelphia has succeeded in making a film of gold so thin that it is transparent, while at the same time appearing of its characteristic yellow color by reflected light. The transmitted light is of a delicate greenish hue. The experimenter succeeded in spreading a single grain of gold over nearly four feet of surface, making a film less than $\frac{1}{2,000,000}$ of an inch in thickness. It would take more than 10,000 of these sheets to equal an ordinary sheet of writing paper in thickness.

The Speaking Telephone.—The *Scientific American* says that Prof. A. Graham Bell has recently completed a series of three lectures, in which he introduced his speaking telephone to New York audiences. There can be no question but that the instrument is a most wonderful invention. Without the aid of any battery, using only the current induced in the circuit by its permanent magnet, the telephone on the occasion of the last lecture transmitted musical sounds and speech from Yonkers to New York, a distance of 26 miles. With the battery attached, melodies and chords played on a small organ at Yonkers were distinguishable throughout the large hall where the lecture took place. It is a most bewildering sensation to hear a song faintly emitted first from a box on the stage, then from another suspended overhead, and finally from a third across the room, as the operator switches the current from one telephone to another.

The telephone is now used in a number of large manufacturing establishments for the purpose of communication between workmen.

The Last Man.—Most of the scientific theories now extant respecting the future history of the globe, imply the final extinction of the human family. An exchange, asking the question, "What will become of the last man?" ingeniously summarizes the various theories as follows:—

"1. The surface of the earth is steadily diminishing, elevated regions are being lowered, and the seas are filling up. The land

will at last be all submerged, and the last man will be starved or drowned.

"2. The ice is gradually accumulating at the north pole and melting away at the south pole, the consequence of which will be an awful catastrophe when the earth's center of gravity suddenly changes. The last man will then be drowned by the rush of waters.

"3. The earth cannot always escape a collision with a comet, and when the disaster comes there will be a mingling of air and cometary, causing an explosion. If the last man is not suffocated, he will be blown up.

"4. There is a retarding medium in space, causing a gradual loss of velocity in the planets, and the earth, obeying the law of gravitation, will get closer and closer to the sun. The last man will be sunstruck.

"5. The amount of water on the earth is slowly diminishing, and simultaneously the air is losing in quantity and quality. Finally the earth will be an arid waste like the moon. The last man will be suffocated.

"6. Other suns have disappeared, and ours must, sooner or later, blaze up and disappear. The intense heat of the conflagration will kill every living thing on earth. The last man will be burned up.

"7. The sun's fire will gradually burn out, and the temperature will cool. The earth's glacial zones will enlarge, driving our race toward the equator, until the habitable space will lessen to nothing. The last man will be frozen to death.

"8. A gradual cooling of the earth will produce enormous fissures, like those seen in the moon. The surface will become extremely unstable, until the remnant of humanity will take refuge in caves. The last man will be crushed in his subterranean retreat.

"9. The earth will at last separate into small fragments, leaving the people without any foot-hold. The last man will have a dreadful fall through space.

"10. The tenth theory, proving that there will be no last man at all, is thus expressed: Evolution does not necessarily imply progress, and possibly the race may have retrograded until the human being possesses the nature of the plant-louse; such being the case, the single inhabitant will spontaneously produce posterity of both sexes."

Metallic Trees.—*Lead Tree.* Dissolve 1 ounce of acetate of lead in $1\frac{1}{2}$ pints of distilled water, adding a few drops of acetic acid. Filter, and pour the liquid into a clear white bottle; suspend a piece of zinc in it by means of a fine thread secured to the stopper.

Tin Tree.—Dissolve 3 drachms of chloride of tin in 1 pint of distilled water, adding 10 or 15 drops of nitric acid. Filter, pour the liquid into a bottle, and suspend in it a small rod of clean zinc.

Silver Tree—Dissolve 20 grains of crystallized nitrate of silver in an ounce of distilled water; put it into a phial and add about $\frac{1}{2}$ a drachm of quicksilver, arranging a piece of zinc, as for the lead tree.

Another very beautiful crystallization, to which has been given the title, *Alaska Scenery*, is prepared as follows: To a saturated solution of nitrate of lead, in distilled water, add small pieces of muriate of ammonia. A most beautiful crystallization shortly commences, in which the imagination can readily picture a snow-covered landscape. These "trees" must be prepared in the position in which they are to stand, as only a slight jarring will spoil their beauty. Prepared in a show-bottle, they form a very curious sight.

The Limits and Powers of Vision.

Delicacy of vision is due to two causes: sensitiveness of the retina, which allows of the perception of minute differences of light, or, in other words, of the clear definition of objects illuminated very slightly more or less than the background against which they appear; and the perfection of the different portions of the eye itself, which admits of the perception of very small objects, or of separating those nearly approximated without the images becoming confused through irradiation. Dr. Carpenter states that the smallest particle of a white substance distinguishable by the naked eye upon a black ground, or of a black substance upon a white ground, is about $\frac{1}{400}$ inch square. "It is possible by the closest attention," he continues, "and by the most favorable direction of light, to recognize particles that are only $\frac{1}{540}$ inch square, but without sharpness and certainty. But particles which strongly reflect light may be distinctly seen when not half the size of the least of the foregoing. Thus, gold-dust of the fineness of $\frac{1}{125}$ inch may be discerned with the naked eye in common daylight. When particles that cannot be distinguished by themselves with the naked eye are placed in a row, they become visible, and hence the delicacy of vision is greater for lines than for single particles. Thus, opaque threads of no more than $\frac{1}{4900}$ inch

across, or about half the diameter of the silk-worm's fiber, may be discerned by the naked eye when they are held towards the light."

Professor Mayer states that by actual experiment he has determined the limit of visibility of the minute to be exemplified by a disk $\frac{1}{800}$ inch in diameter and a line about $\frac{1}{5000}$ inch in breadth. The same authority has found from several measures that a line $\frac{1}{1000}$ inch in breadth is obtained by drawing the finest line possible on Bristol-board with a sharply pointed H H H pencil.

Probably the most difficult feat of all recorded done by human sight is the perceiving of the crescent of Venus. This has been done but three times, once by Stoddard, a missionary on the high table-lands of Persia, once by Theodore Parker when a child in Chili, and once by Abbé André, in 1868, in France. The Abbé saw the crescent when it subtended an angle of but fifty seconds.—*Sci. American.*

Kauri Gum.—It is supposed that, possibly, many centuries ago, conflagration of the *ti* tree scrub had destroyed the gum-bearing trees, which fell where they stood, half incrusting with the hardened sap, and according to their condition yielding small flakes or huge masses of sap, as the heated ground around them caused every particle of the resin to come to the surface. To find the gum, the heaps or mounds alluded to—which are covered with long grass and often scarcely discernible—are pierced by a steel-tipped spear which is carried for the purpose. A little practice soon enables the gum digger to discover if he has struck, not "ile," but gum. The experienced man then soon bares the spot, and finds pieces of the amber-looking material in blocks of various sizes, from a few ounces to half a hundred-weight. This digging, which affords a means of livelihood to a large number of natives and colonists, known as "gum diggers," is also undertaken by the sheep breeder in his leisure moments, and to the small holder often, if luck favors him, forms a not unwelcome increase of income. It is collected and sent to market for shipment, and in England it appears to find purchasers who use it for the purpose of dressing calicoes, for which object it is possibly dissolved by the aid of alkalies.—*Sel.*

Agassiz's Successor.—The worthy successor of Prof. Agassiz is his son Alexander, whose name, in zoological investigation, is already acknowledged as a bright light in the Old World and the New. Happy, indeed, is this for biological science in America.

News and Miscellany.

- The Russians have crossed the Danube.
- Cremation is securing a fashionable foothold in Indiana.
- Kars still holds out against the Russians, who outnumber the besieged by three to one.
- John S. C. Abbott, D. D., died at home in Fair Haven, Conn., June 17, aged 72 years.
- Dr. Ayer, the famous vendor of patent medicines, is an inmate of an insane asylum.
- A tunnel under the Pyrenees, uniting France and Spain, will be opened next year.
- Ireland sent to this country last year 1,364 immigrants; England, 1,500; Germany, 2,184.
- The Providence tool company are making six hundred guns a day for the Turkish government.
- An International Exhibition of fine arts is announced to be held in Madrid, Spain, next year.
- On the 4th ult. the town of Mt. Carmel, Ill., was destroyed by a cyclone. Many persons were killed.
- The managers of the N. Y. Central R. R. have interdicted the sale of intoxicating liquors at any of their stations.
- During the last year \$2,500,000 worth of fruit was sent to England; only \$600 worth was sent the previous year.
- The late storms in the West have unfortunately caused serious damage to the crops, particularly in Missouri and Kansas.
- The Piute Indians do not believe in burying their dead, but the tribe living near Austin, Nev., have been compelled by the authorities to change their practice.
- The Suez Canal has been an expensive luxury to Egypt. Other nations have derived all the benefits and she the bills—seventy-one millions to date.
- It is not generally known that Russia is a gold-producing country. It is stated that its mines produced 77,000 lbs., Troy, of gold and silver in 1876, worth nearly \$18,000,000.
- Birmingham, Eng., has decided to buy up all the liquor-saloons within its boundaries at a cost of about £1,000,000, close up some of them, and run the rest under carefully digested regulations.
- Capt. Burton, the African traveler, has just been exploring the ancient land of Midian. He reports the discovery of rich gold mines, and thinks it more than probable that this is Solomon's Ophir.
- The actuary of a Temperance Life Insurance Company replied to a non-abstainer who complained because his class of people had to pay a higher rate of premium than total abstin-

ers, "The fact is, you die faster than those that do n't drink, or they do not die so fast as you."

—The distress caused by the famine in China for the last few months, is terrible. The grass by the wayside, the bark and leaves of trees, every green thing, is devoured by the sufferers. Children are buried alive by parents, to end their sufferings, and suicides are numerous,

P. T. Barnum now offers \$10,000 for the recovery of Charley Ross, in consideration of which he has obtained the consent of the father and friends to exhibit him if successful in his effort. He promises to make no efforts to inculpate the guilty party, and it is thought he will succeed.

—The New York Board of Health takes credit to itself that our death rate is below thirty-two leading European and Asiatic cities. So far from being a good, this is really a bad exhibit, for owing to its position the death rate in New York ought to be far below what it is in Europe and Asia.

—A recent report from the South Pacific coast announces that on May 9th a mighty earthquake and resulting tidal wave of from sixteen to sixty feet in height caused great disaster on the Peruvian coast. It is said that eleven towns, six hundred people, and twenty millions of dollars, were lost.

—The old railroad time-tables and former rates are resumed. Low rates and fast trains were the result of one of the shortest railroad wars on record. It is to be hoped that the day will soon come when railroad managers will not be able to indulge in these petty quarrels at the community's expense.

—Artificial flowers called barometers are now being exhibited in a number of Parisian opticians' shops. They are colored with a material composed of chloride of cobalt. When exposed to sun and dry air the leaves become deep blue; when the air is saturated with moisture they become pinky. All the intermediate shades are easily observed.

—The Paris Société contre l'Abus du Tabac offers a prize of 100 francs for the best essay on the dangers of the use of tobacco; a prize of 200 francs to the medical man who will furnish the greatest number of interesting unpublished cases of disease caused by tobacco; and a prize of 300 francs for the best essay on the influence of tobacco on study in schools, colleges, etc.

—Minnesota farmers have been delivered from the threatened destruction of their crops by grasshoppers by the invention of a machine for catching them. The apparatus is a simple device consisting of a broad sheet of sheet-iron turned up at the back side and covered with coal-tar. As it is drawn over the ground, the insects hop upon it and are caught by the tar. It is very successful.

—James A. Woodruff, of Indianapolis, is engaged in organizing a scientific expedition which is to make a tour of the world, stopping at points of interest sufficiently long to make ex-

plorations and gather collections of specimens in the various departments of natural history. The expense to each individual is estimated at about \$2,500. The enterprise promises to be very successful.

—It is shrewdly suspected that Russia invented, or set on foot, the conspiracy of "blowing in the banks of the Suez Canal with nitroglycerine at the point between Ismalia and Port Said" for the express purpose of alarming England and causing her to occupy Egypt.

Literary Notices.

HOURS WITH MEN AND THINGS. By Wm. Matthews, LL. D. Chicago: S. C. Griggs & Co.

Dr. Matthews certainly excels nearly every other American essayist in the richness of illustration with which he adorns his pages. His works are becoming very popular, and are doing a great amount of good in inculcating right principles in a great variety of the every-day affairs of life. In general, we have been happy to find the author on the right side of every question, and quite free from prejudice against anything looking in the direction of reform. We are sorry to see in this volume a reference to Sylvester Graham which was evidently written without a proper understanding of either the character of the man or his work. Dr. Graham may have been an enthusiast upon some points, but enthusiasts are just what every great reform requires at its inception. Enthusiasm is required to attract the attention of the world to the consideration of important questions. Nevertheless, if Sylvester Graham were now alive he would find, instead of "a baker's dozen of followers," nearly the whole American people following the principles which he inculcated in a greater or lesser degree. It is altogether too late to inveigh against "bran bread" with ridicule and sarcasm. The verdict of the whole scientific world and of the better portion of the people at large has been rendered on this question, and it is in favor of the truths taught by that noble apostle of reform, Sylvester Graham.

We wish it distinctly understood that we do not condemn the work for this single error. It is an admirable volume, and every one should have a copy.

RESTRICTION AND PREVENTION OF SCARLET FEVER. Lansing, Mich.: State Board of Health.

This is an invaluable document, and should be in the hands of every family in the land. At least, every physician should have a good supply on hand to place in the hands of his patients.

This is another evidence of the noble work our State Board of Health are doing for the people of Michigan. Their efforts are untiring in behalf of the public health. We wish they were better appreciated by both physicians and people. We were pained to hear, at the meet-

ing of the State Medical Association, some expressions derogatory of the motives of these philanthropic workers for humanity. The most active and efficient member of the Board is the able secretary, Dr. H. B. Baker, of Lansing, to whose assiduous labors the public are chiefly indebted for these well-prepared printed documents.

TWENTIETH ANNUAL REPORT OF THE MICHIGAN STATE REFORM SCHOOL.

This report shows evidence of important improvements in the management of the institution named, which have been conducted under the supervision of Mr. Frank M. Howe, the new superintendent. Perhaps these improvements cannot be better described than by quoting the following paragraphs from the report:—

"The old fence around the yard had for many years been an eye-sore, and although more than twenty feet high, and two or three feet below the surface, the boys had often found means to get either over or under, and escape. This came down, and never did boys or men work with such vim and zeal as did these in its demolition. Its place has been supplied by a neat picket fence of eight feet, and though more than a year and a half has elapsed since its erection, we can point to it as a barrier, over which no escape has been attempted.

"Following up this idea of the removal of all prison appearances, the old iron doors in the dormitories, and grates from the windows, have been removed. Corporeal punishment was many years since prohibited, except in very extreme cases. It has not been practiced under the present superintendent.

"Some of the advocates of the old lock, bolt, and whipping system, ask, 'How do you keep your boys from running away?' Our answer is, By treating them so they have no desire to leave; showing them we are their friends, interested in their welfare, that our wish is to help them, and to promote their happiness, and contentment follows."

MARYLAND MEDICAL JOURNAL. Baltimore: Manning & Ashby.

An ably conducted medical monthly magazine. The present number presents an interesting table of contents, including an article commending in the highest terms the Swedish movement cure, as introduced by Dr. Leing, of Sweden, and represented by various mechanical contrivances from Stockholm at the Centennial Exhibition—the same system employed at the Sanitarium, of this city.

MOODY'S TALKS ON TEMPERANCE. New York: J. N. Stearns.

This work has just been issued by the National Temperance Society, and contains the temperance talks and sermons delivered by Mr. Moody during his labors in Boston. It is an interesting volume. Price, \$1.00.

Items for the Month.

 A BLUE CROSS by this paragraph signifies that the subscription has expired, and that this number is the last that will be sent till the subscription is renewed. A renewal is earnestly solicited.

A Grand Success.

ON the occasion of the visit of Barnum's great show to this city on the 28th ult., the ladies of the Woman's Christian Temperance Union of this city struck a telling blow for temperance and reform by organizing an immense temperance restaurant to accommodate the crowds of people who gathered in from the country to see the show, and thus prevent them from visiting the saloons and grogeries where they would be exposed to temptation. A mammoth tent, employed for camp-meeting purposes, and capable of holding 5,000 people, was kindly tendered by the S. D. Adventist denomination for the occasion. Beneath this immense canvas temple were erected fifteen or twenty tables for the accommodation of guests. By invitation the Sanitarium of this city erected a large table in the center of the great pavilion, which was bountifully supplied with the delicious fruits, grains, and vegetables which constitute the dietary at the institution named. This table really formed the chief attraction of the entertainment, and was more largely patronized than any other, notwithstanding the popular prejudice against the hygienic mode of living. Although the table was more than thirty feet in length, the attraction toward it became so great that it was necessary to annex another about two-thirds as long, which was also thronged.

It was really encouraging to hygienists to see scores of hungry citizens and country people turning away from the side-tables, laden with their favorite pork and beans, roast beef, salads, tea, coffee, etc., and crowding about the Sanitarium table with an almost childlike eagerness to secure a square hygienic meal. Not a seat was left vacant a moment, and there were usually a score or two of persons standing behind the long lines of diners, ready to drop into a seat the instant it was vacated.

The popular prejudice, usually expressed in such terms as "bran bread," "starvation diet," and similar epithets, melted away "like mist before the rising sun;" and words of commendation were in the mouth of every one.

The whole affair was a grand success. About seven hundred tickets were sold, at 25 cents each, of which three hundred were taken up at the Sanitarium table.

Prominent among the diners at the Sanitarium

table were Eld. James White and wife, Rev. Mr. Pearce and family, with others of the clergy of the city, most of the managers of the entertainment, and many leading merchants and private citizens. The managers of the Sanitarium, with their friends, express sincere thanks to the public for the cordial manner in which their effort was received, and the marked attention bestowed upon their table.

 A great temperance mass-meeting is to be held in the Mammoth Tent next Sunday, July 1. A general rally of temperance workers and reformers is expected from the surrounding country; and if the weather is propitious, a great success will be assured.

 Work upon the new main building of the Sanitarium is progressing rapidly. The first plans have been greatly enlarged owing to the encouragement received from the great increase in patronage. Instead of one hundred and ten feet, as intended, the main building will be one hundred and thirty-six feet in length, forty feet in width, and four stories in height. There will be balconies to each story and a fine promenade upon the top which will command a lovely view for miles around. It is calculated to make the bath rooms the finest in the State. They will be put up first, and will be upon a plan wholly different from that followed in health institutions and water cures generally.

The number of patients is constantly increasing, and a more cheerful, happy, contented company of sick people was never seen than is that which gathers in the parlors of the institution.

 We are no longer able to fill orders for the "Family Physician." The edition is entirely sold. We shall publish an entirely new and greatly superior work, as soon as it can be completed. It is now in course of preparation, and may be published the coming fall. So soon as the time is definitely settled we will announce it. The work will be so greatly enlarged that the price will be \$1.50 to \$2.00. Those who are in need of a work giving directions for treatment can obtain "Uses of Water" either bound or in paper covers. The work is very complete, plain, and practical.

 The great press of labor which has crowded upon us during the last week has compelled us to delay the issue of this number two or three days beyond the usual time. We shall be on time next month as usual.



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OUR BOOK LIST.

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